


## ACKNOWLEDGMENTS

The Decennial Planning Division, Susan M. Miskura, Chief, coordinated and directed all census operations. Patricia A. Berman, Assistant Division Chief for Content and Data Products, directed the development and implementation of the 1990 Census Tabulation and Publication Program. Other assistant division chiefs were Robert R. Bair, Rachel F. Brown, James L. Dinwiddie, Allan A. Stephenson, and Edwin B. Wagner, Jr. The following branch chiefs made significant contributions: Cheryl R. Landman, Adolfo L. Paez, A. Edward Pike, and William A. Starr. Other important contributors were Linda S. Brudvig, Cindy S. Easton, Avis L. Foote, Carolyn R. Hay, Douglas M. Lee, Gloria J. Porter, and A. Nishea Quash.

The Decennial Operations Division, Arnold A. Jackson, Chief, was responsible for processing and tabulating census data. Assistant division chiefs were: Donald R. Dalzell, Kenneth A. Riccini, Billy E. Stark, and James E. Steed. Processing offices were managed by Alfred Cruz, Jr., Earle B. Knapp, Jr., Judith N. Petty, Mark M. Taylor, Russell L. Valentine, Jr., Carol A. Van Horn, and C. Kemble Worley. The following branch chiefs made significant contributions: Jonathan G. Ankers, Sharron S. Baucom, Catharine W. Burt, Vickie L. Cotton, Robert J. Hemmig, George H. McLaughlin, Carol M. Miller, Lorraine D. Neece, Peggy S. Payne, William L. Peil, Cotty A. Smith, Dennis W. Stoudt, and Richard R. Warren. Other important contributors were Eleanor I. Banks, Miriam R. Barton, Danny L. Burkhead, J. Kenneth Butler, Jr., Albert A. Csellar, Donald H. Danbury, Judith A. Dawson, Donald R. Dwyer, Beverly B. Fransen, Katherine H. Gilbert, Lynn A. Hollabaugh, Ellen B. Katzoff, Randy M. Klear, Norman W. Larsen, Peter J. Long, Sue Love, Patricia O. Madson, Mark J. Matsko, John R. Murphy, Dan E. Philipp, Eugene M. Rashlich, Willie T. Robertson, Barbara A. Rosen, Sharon A. Schoch, Imelda B. Severdia, Diane J. Simmons, Emmett F. Spiers, Johanne M. Stovall, M. Lisa Sylla, and Jess D. Thompson.

The Housing and Household Economic Statistics Division, Daniel H. Weinberg, Chief, developed the questionnaire content, designed the data tabulations, and reviewed the data for the economic and housing characteristics. Gordon W. Green, Jr., Assistant Division Chief for Economic Characteristics, and Leonard J. Norry, Assistant Division Chief for Housing Characteristics, directed the development of this work. The following branch chiefs made significant contributions: William A. Downs, Peter J. Fronczek, Patricia A. Johnson, Enrique J. Lamas, Charles T. Nelson, and Thomas S. Scopp. Other important contributors were Eleanor F. Baugher, Jeanne C. Benetti, Robert L. Bennefield, Robert W. Bonnette, William S. Chapin, Higinio Feliciano, Timothy S. Grall, Cynthia J. Harpine, Selwyn Jones, Mary C. Kirk, Richard G. Kreinsen, Gordon H. Lester, Mark S. Littman, Wilfred T. Masumura, John M. McNeil, Diane C. Murphy, George F. Patterson, Thomas J. Palumbo, Kirby G. Posey, John Priebe, Anne D. Smoler, and Carmina F. Young.

The Population Division, Paula J. Schneider, Chief, developed the questionnaire content, designed the data tabulations, and reviewed the data for the demographic and social characteristics of the population. Philip N. Fulton, Assistant Division Chief for Census Programs, directed the development of this work. Other assistant division chiefs were Nampeo R. McKenney and Arthur J. Norton. The following branch and staff chiefs made significant contributions: Jorge H. del Pinal, Campbell J. Gibson, Roderick J. Harrison, Donald J. Hernandez, Jane H. Ingold, Martin T. O'Connell, Marie Pees, J. Gregory Robinson, Phillip A. Salopek, Paul M. Siegel, Robert C. Speaker, Gregory K. Spencer, and Cynthia M. Taeuber. Other important contributors were Celia G. Boertlein, Rosalind R. Bruno, Janice A. Costanzo, Rosemarie C. Cowan, Arthur R. Cresce, Larry G. Curran, Carmen DeNavas, Robert O. Grymes, Kristin A. Hansen, Mary C. Hawkins, Rodger V. Johnson, Michael J. Levin, Edna L. Paisano, Sherry B. Pollock, Stanley J. Rolark, A. Dianne Schmidley, Denise I. Smith, and Nancy L. Sweet.

The Data User Services Division, Gerard C. Iannelli, then Chief, directed the development of data product dissemination and information to increase awareness, understanding, and use of census data. Marie G. Argana, Assistant Chief for Data User Services, directed preparation of electronic data products and their dissemination. Alfonso E. Mirabal, Assistant Chief for Group Information and Advisory Services, directed activities related to the National Services Program, State Data Centers, and preparation of training materials. The following branch chiefs made significant contributions: Deborah D. Barrett, Frederick G. Bohme, Larry W.

Carbaugh, James P. Curry, Samuel H. Johnson, John C. Kavaliunas, and Forrest B. Williams. Other important contributors were Molly Abramowitz, Celestin J. Aguigui, Barbara J. Aldrich, Delores A. Baldwin, Albert R. Barros, Geneva A. Burns, Carmen D. Campbell, James R. Clark, Virginia L. Collins, George H. Dailey, Jr., Barbara L. Hatchl, Theresa C. Johnson, Paul T. Manka, John D. McCall, Jo Ann Norris, David M. Pemberton, Sarabeth Rodriguez, Charles J. Wade, Joyce J. Ware, and Gary M. Young.

The Geography Division, Robert W. Marx, Chief, directed and coordinated the census mapping and geographic activities. Jack R. George, Assistant Division Chief for Geoprocessing, directed the planning and development of the TIGER System and related software. Robert A. LaMacchia, Assistant Division Chief for Planning, directed the planning and implementation of processes for defining 1990 census geographic areas. Silla G. Tomasi, Assistant Division Chief for Operations, managed the planning and implementation of 1990 census mapping applications using the TIGER System. The following branch chiefs made significant contributions: Frederick R. Broome, Charles E. Dingman, Linda M. Franz, David E. Galdi, Dan N. Harding, Donald I. Hirschfeld, David B. Meixler, Peter Rosenson, Joel Sobel, Brian Swanhart, and Richard Trois. Other important contributors were Gerard Boudriault, Desmond J. Carron, Anthony W. Costanzo, Paul W. Daisey, Beverly A. Davis, Carl S. Hantman, Christine J. Kinnear, Terence D. McDowell, Linda M. Pike, Rose J. A. Quarato, Lourdes Ramirez, Gavin H. Shaw, Daniel L. Sweeney, Timothy F. Trainor, Phyllis S. Willette, and Walter E. Yergen.

The Statistical Support Division, John H. Thompson, Chief, directed the application of mathematical statistical techniques in the design and conduct of the census. John S. Linebarger, Assistant Division Chief for Quality Assurance, directed the development and implementation of operational and software quality assurance. Henry F. Woltman, Assistant Division Chief for Census Design, directed the development and implementation of sample design, disclosure avoidance, weighting, and variance estimation. Howard Hogan and David V. Bateman were contributing assistant division chiefs. The following branch chiefs made significant contributions: Florence H. Abramson, Deborah H. Griffin, Richard A. Griffin, Lawrence I. Iskow, and Michael L. Mersch. Other important contributors were Linda A. Flores-Baez, Larry M. Bates, Somonica L. Green, James E. Hartman, Steven D. Jarvis, Alfredo Navarro, Eric L. Schindler, Carolyn T. Swan, and Glenn D. White.

The 1990 Census Redistricting Data Office, Marshall L. Turner, Jr., Chief, assisted by Cathy L. Talbert, directed the development and implementation of the 1990 Census Redistricting Data Program.

The Administrative and Publications Services Division, Walter C. Odom, Chief, provided direction for the census administrative services, publications, printing, and graphics functions. Michael G. Garland was a contributing assistant division chief. The following branch and staff chiefs made significant contributions: Bernard E. Baymler, Albert W. Cosner, Gary J. Lauffer, Gerald A. Mann, Clement B. Nettles, Russell Price, and Barbara J. Stanard. Other important contributors were Barbara M. Abbott, Robert J. Brown, David M. Coontz, and John T. Overby.

The Data Preparation Division, Joseph S. Harris, Chief, provided management of a multi-operational facility including kit preparation, procurement, warehousing and supply, and census processing activities. Plummer Alston, Jr., and Patricia M. Clark were assistant division chiefs.

The Field Division, Stanley D. Matchett, Chief, directed the census data collection and associated field operations. Richard L. Bitzer, Richard F. Blass, Karl K. Kindel, and John W. Marshall were assistant division chiefs. Regional office directors were William F. Adams, John E. Bell, LaVerne Collins, Dwight P. Dean, Arthur G. Dukakis, Sheila H. Grimm, William F. Hill, James F. Holmes, Stanley D. Moore, Marvin L. Postma, John E. Reeder, and Leo C. Schilling.

The Personnel Division, David P. Warner, Chief, provided management direction and guidance to the staffing, planning pay systems, and employee relations programs for the census. Colleen A. Woodard was the assistant chief.

The Technical Services Division, C. Thomas DiNenna, Chief, designed, developed, deployed, and produced automated technology for census data processing.

1990 Census of Population and Housing
Evaluation and Research Reports
Content Reinterview Survey: Accuracy of Data for Selected Population and Housing Characteristics as Measured by Reinterview

U.S. Department of Commerce Ronald H. Brown, Secretary

Economics and Statistics Administration Paul A. London, Acting Under Secretary
for Economic Affairs


## Economics and Statistics

 AdministrationPaul A. London, Acting Under Secretary for Economic Affairs

bureau of the census
Harry A. Scarr, Acting Director
Charles D. Jones, Associate Director for Decennial Census
William P. Butz, Associate Director for Demographic Programs
Bryant Benton, Associate Director for Field Operations
Clifford J. Parker, Acting Associate Director for Administration
Peter A. Bounpane, Assistant Director for Decennial Census

## Special Acknowledgments

These data were analyzed and the report was prepared by Kathryn F. Thomas, Tamara L. Dingbaum, and Henry F. Woltman, Assistant Division Chief for Census Design, under the general supervision of John H. Thompson, Division Chief, Decennial Statistical Studies Division. This evaluation was planned and designed by Kathryn F. Thomas and Michael Sinclair under the supervision of Jon R. Clark, Chief of the Census Data Quality Branch and Henry F. Woltman, Assistant Division Chief for Census Design.

Computer programming to produce the data comparison tables was done by Tamara L. Dingbaum and the Decennial Statistical Studies Division EDP Staff under the direction of Larry Iskow. Computer programmers included Linda Flores-Baez, Jerome Garrett, Rachel Hall, and Greta Holland. File manipulations were done by programmers in Decennial Management Division.

The Content Reinterview Survey Working Group, chaired by Kathryn Thomas, participated in the planning and implementation of the survey. Working group members include Henry Woltman, Jon Clark, Tamara Dingbaum, Michael Sinclair, Jerome Garrett, Rachel Hall, Annetta Walker, Machell Kindred, and Eric Williams, all of Decennial Statistical Studies Division; Robert T. Smith, Jr. of Business Division; David Whitford, Cathy Hines, George McLaughlin, Faye Nash, Gerard Moore, Peter Long, and Judy Dawson, of Decennial Management Division; Richard Kreinsen and Tom Palumbo of Housing and Household Economic Studies; Sherry Pollock, Nancy Sweet, and Jane Ingold of Population Division; Vaughn Paddock, Pat Rogers, Jan Jaworski, Carol Comisarow, Jan Brown, Caralene McClain, and Neil Ferraiuolo of Field Division; and Steve Tourkin and Cathy Walker of Demographic Surveys Division.

Clerical support was provided by Rita M. Visnansky, Maria Knittel, and Loretta Breen, Decennial Statistical Studies Division. Coding was done by staff in the Jacksonville Processing Office; keying was done by staff in the Jeffersonville Processing Office. (Note that in 1992, the Statistical Support Division was renamed the Decennial Statistical Studies Division and Decennial Planning Division merged with the Decennial Operations Division to form the Decennial Management Division.)

## CONTENTS

Page
CHAPTER 1. INTRODUCTION AND BACKGROUND ..... 5
INTRODUCTION ..... 5
BACKGROUND ..... 5
EDITED CENSUS DATA ..... 6
CHAPTER 2. MEASURES OF RESPONSE ERROR ..... 7
ESTIMATING SIMPLE RESPONSE VARIANCE AND RESPONSE BIAS ..... 7
INTERPRETING VALUES OF THE INDEX OF INCONSISTENCY AND THE NET DIFFERENCE RATE ..... 8
CHAPTER 3. EVALUATION OF RESPONSES FOR SELECTED HOUSING CHARACTERISTICS ..... 11
INTRODUCTION ..... 11
RESULTS FOR HOUSING CHARACTERISTICS WITH RESPONSE VARIANCE TYPE REINTERVIEWS ..... 11
RESULTS FOR HOUSING CHARACTERISTICS WITH RESPONSE BIAS TYPE REINTERVIEWS ..... 12
CHAPTER 4. EVALUATION OF RESPONSES FOR SELECTED POPULATION CHARACTERISTICS ..... 17
INTRODUCTION ..... 17
RESULTS FOR POPULATION CHARACTERISTICS WITH RESPONSE VARIANCE TYPE REINTERVIEWS ..... 17
RESULTS FOR POPULATION CHARACTERISTICS WITH RESPONSE BIAS TYPE REINTERVIEWS ..... 19
CHAPTER 5. SURVEY DESIGN AND OPERATIONS ..... 27
SAMPLE SELECTION ..... 27
FIELD OPERATIONS AND CLERICAL PROCESSING ..... 27
COMPUTER PROCESSING ..... 28
CHAPTER 6. DATA LIMITATIONS ..... 29
SAMPLING VARIABILITY ..... 29
SOURCE OF RESPONSE ERROR ..... 29
NONINTERVIEWS ..... 29
MATCHING ..... 29
TIMING ..... 30
CONVERSION HOUSEHOLDS ..... 30

## TABLES. SUMMARY MEASURES OF RESPONSE ERROR

1. Summary Measures of Response Error for Housing Characteristics Estimated From Response Variance Type Reinterview: 1990 Census ..... 32
2. Summary Measures of Response Error for Housing Characteristics Estimated From Response Bias Type Reinterview: 1990 Census ..... 33
3. Summary Measures of Response Error for Population Characteristics Estimated From Response Variance Type Reinterview: 1990 Census ..... 36
4. Summary Measures of Response Error for Population Characteristics Estimated From Response Bias Type Reinterview: 1990 Census ..... 38
APPENDIXES
A. FACSIMILES OF THE CONTENT REINTERVIEW QUESTIONNAIRE AND THE 1990 CENSUS OF THE UNITED STATES WITH RESPONDENT INSTRUCTIONS ..... 51
B. METHODOLOGY OF RESPONSE ERROR EVALUATION ..... 89
COMPUTATION OF RESPONSE ERROR MEASURES AND THEIR 90-PERCENT CONFIDENCE INTERVALS ..... 89
COMPUTING THE NET DIFFERENCE RATE AND INDEX OF INCONSISTENCY ..... 90
COMPUTING 90-PERCENT CONFIDENCE INTERVALS ..... 90
90-PERCENT CONFIDENCE INTERVAL OF NET DIFFERENCE RATE FOR MARITAL STATUS CATEGORY "SEPARATED" ..... 91
90-PERCENT CONFIDENCE INTERVAL FOR INDEX OF INCONSISTENCY FOR CATEGORY $i$ : ..... 91
90-PERCENT CONFIDENCE INTERVAL FOR INDEX OF INCONSISTENCY FOR MARITAL STATUS CATEGORY "SEPARATED" ..... 91
90-PERCENT CONFIDENCE INTERVAL FOR L-FOLD INDEX OF INCONSISTENCY ..... 92
90-PERCENT CONFIDENCE INTERVAL FOR L-FOLD INDEX OF INCONSISTENCY, MARITAL STATUS ..... 92
C. DATA COMPARISON TABLES FOR HOUSING CHARACTERISTICS ..... 95
C.1. Census Question H2—Which Best Describes This Building?-Unedited, Total Units: 1990 Census ..... 95
C.2. Census Question H19A—Is This House on Less Than 1 Acre?—Unedited: 1990 Census ..... 95
C.3. Census Question H19B-In 1989, What Were the Actual Sales of All Agricultural Products From This Property?-Unedited: 1990 Census ..... 96
C.4. Census Question H4—(Tenure) Is This House or Apartment..?-Unedited, Total Units: 1990 Census ..... 96
C.5. Census Question H10-Do You Have COMPLETE Plumbing Facilities in This House or Apartment; That Is, 1) Hot and Cold Piped Water, 2) A Flush Toilet, and 3) A Bathtub or Shower?-Unedited, Total Units: 1990 Census ..... 96
C.6. Census Question H13-How Many Automobiles, Vans, and Trucks of 1-Ton Capacity or Less Are Kept at Home for Use by Members of Your Household?-Unedited, Total Units: 1990 Census ..... 97
C.7. Census Question H17—About When Was This Building First Built?—Unedited, Total Units: 1990 Census ..... 97
C.8. Census Question H7A-What is the Monthly Rent?-Unedited: 1990 Census ..... 98
C.9. Census Question H7B—Does the Monthly Rent Include Any Meals?—Unedited: 1990 Census ..... 100
D. DATA COMPARISON TABLES FOR POPULATION CHARACTERISTICS ..... 101
D.1. Census Question P7—Is This Person of Spanish/ Hispanic Origin?—Unedited, Total Persons: 1990 Census ..... 101

## APPENDIXES-Con.

D.2. Census Question P10—When Did This Person Come To the United States To Stay?- Unedited: 1990 Census ..... 101
D.3. Census Question P11—At Any Time Since February 1, 1990, Has This Person Attended Regular School or College?-Unedited, Total Persons: 1990 Census ..... 102
D.4. Census Question P28C—Is This Industry Mainly..?-Unedited: 1990 Census ..... 102
D.5. Census Question P30—Was This Person...?-Unedited: 1990 Census ..... 102
D.6. Census Question P4-What Is This Person's Race?-Unedited, Total Persons: 1990 Census ..... 103
D.7. Census Question P8-(Place of Birth) In What U.S. State or Foreign Country Was This Person Born?-Edited, Total Persons: 1990 Census ..... 104
D.8. Census Question P12—How Much School Has This Person Completed?—Unedited, Total Persons: 1990 Census ..... 108
D.9. Census Question P9—Is This Person a Citizen of the United States?—Unedited, Total Persons: 1990 Census ..... 109
D.10. Census Question P13-(Ancestry—Single Response Only) What Is This Person's Ancestry or Ethnic Origin? Edited: 1990 Census ..... 110
D.11. Census Question P13-(Ancestry—STF3 Categories, Used First Response in CRS and Census) What Is This Person's Ancestry or Ethnic Origin?-Edited, Total Persons: 1990 Census ..... 113
D.12. Census Question P13-(Ancestry-34 Largest Categories, Used First Response in CRS and Census) What Is This Person's Ancestry or Ethnic Origin?—Edited, Total Persons: 1990 Census ..... 116
D.13. Census Question P15A—Does This Person Speak a Language Other Than English at Home?- Unedited, Total Persons: 1990 Census ..... 119
D.14. Census Question P15C—How Well Does This Person Speak English?—Unedited: 1990 Census ..... 119
D.15. Census Question P15B—What Is This Language?-Edited: 1990 Census ..... 120
D.16. Census Question P17A—Has This Person Ever Been on Active-Duty Military Service in the Armed Forces of the United States or Ever Been in the United States military Reserves or the National Guard?-Unedited: 1990 Census ..... 122
D.17. Census Question P17B1—Was Active-Duty Military Service During September 1980 or Later?-Unedited: 1990 Census ..... 122
D.18. Census Question P17B2-Was Active-Duty Military Service During May 1975 to August 1980?-Unedited: 1990 Census ..... 123
D.19. Census Question P17B3—Was Active-Duty Military Service During Vietnam era (August 1964- April 1975)?-Unedited: 1990 Census ..... 123
D.20. Census Question P17B4—Was Active-Duty Military Service During February 1955-July 1964? Unedited: 1990 Census ..... 123
D.21. Census Question P17B5-Was Active-Duty Military Service During Korean conflict (June 1950- January 1955)?-Unedited: 1990 Census ..... 124
D.22. Census Question P17B6-Was Active-Duty Military Service During World War II (September 1940- July 1947)?-Unedited: 1990 Census ..... 124
D.23. Census Question P17B7—Was Active-Duty Military Service During World War I (April 1917- November 1918)?—Unedited: 1990 Census ..... 125
D.24. Census Question P17B8-Was Active-Duty Military Service During Any Other Time?- Unedited: 1990 Census ..... 125
D.25a. Census Question P17C-In Total, How Many Years of Active-Duty Military Service Has This Person Had?-Edited: 1990 Census ..... 126
D.25b. Census Question P17C-In Total, How Many Years of Active-Duty Military Service Has This Person Had?—Edited: 1990 Census (Collapsed to 5 Categories) ..... 129
APPENDIXES-Con.
D.26. Census Question P18A—Does This Person Have A Physical, Mental, or Other Health Condition That Has Lasted for 6 or More Months and Which Limits the Kind or Amount of Work This Person Can Do At a Job?-Unedited: 1990 Census ..... 129
D.27. Census Question P18B—Does This Person Have A Physical, Mental, or Other Health Condition That Has Lasted for 6 or More Months and Which Prevents This Person From Working At a Job?-Unedited: 1990 Census ..... 129
D.28. Census Question P19A—Because of a Health Condition That Has Lasted for 6 or More Months, Does This Person Have Any Difficulty Going Outside the Home Alone, for Example, to Shop or Visit a Doctor's Office?-Unedited: 1990 Census ..... 130
D.29. Census Question P19B—Because of a Health Condition That Has Lasted for 6 or More Months, Does This Person Have Any Difficulty Taking Care of His or Her Own Personal Needs, Such As Bathing, Dressing, or Getting Around Inside the Home?-Unedited: 1990 Census ..... 130
D.30. Census Question P30—Was This Person..?-Unedited: 1990 Census (Uses Reinterview Recode) ..... 131
D.31. Census Question P31A—Last Year (1989), Did This Person Work, Even for a Few Days, at a Paid Job or in a Business or Farm?-Unedited: 1990 Census ..... 131
D.32. Census Question P31B—How Many Weeks Did This Person Work in 1989?-Edited: 1990 Census ..... 132
D.33. Census Question P31C—During the Weeks WORKED in 1989, How Many Hours Did This Person Usually Work Each Week?-Edited: 1990 Census (Collapsed to 2 Categories) ..... 132
D.34. Census Question P31C—During the Weeks WORKED in 1989, How Many Hours Did This Person Usually Work Each Week?-Edited: 1990 Census (Collapsed to 3 Categories) ..... 132
E. ADDITIONAL TABLES ..... 133
E.1. Questions Used to Determine Housing Subgroups ..... 133
E.2. Response Error Measures for Rent (Includes Additional Outside Payments) ..... 133
E.3. Census Question H7A-What Is the Monthly Rent?—Unedited: 1990 Census (Includes Additional Outside Payments) ..... 134
E.4. Indexes of Inconsistency and Net Difference Rates for Year Built: Owner Occupied Units ..... 136
E.5. Indexes of Inconsistency and Net Difference Rates for Year Built: Renter Occupied Units ..... 136
E.6. Questions Used to Determine Population Subgroups ..... 136
E.7. Response Errors for Census Question P31A (With Reinterview Recodes) ..... 137
E.8. Census Question P31A—Last Year (1989), Did This Person Work, Even for a Few Days, at a Paid Job or in a Business or Farm?-Unedited: 1990 Census (With Reinterview Recodes) ..... 137
E.9. Response Errors for Census Question P17A (Edited Census Data) ..... 138
E.10. Census Question P17A-Has This Person Ever Been on Active-Duty Military Service in the Armed Forces of the United States or Ever Been in the United States Military Reserves or the National Guard?-Edited: 1990 Census ..... 138
BIBLIOGRAPHY ..... 139

# CHAPTER 1. Introduction and Background 

## INTRODUCTION

Evaluation of the quality of the data collected in the 1990 Census of Population and Housing is important for both data users and census planners. Users must have knowledge of the accuracy and reliability of the data to make informed decisions about how errors in the data may affect conclusions drawn. Census planners need similar information to develop and test methods to improve the overall quality of the data produced in future censuses.

Information on the quality of responses for selected population and housing items from the 1990 census is presented in this report. The data presented are based on a survey done uniquely for purposes of measuring response error-the Content Reinterview Survey (CRS). A reinterview survey involves selecting a sample of housing units which were originally enumerated in the census, then conducting a second interview with these same households. Comparisons of data items are made at the address level for housing characteristics and at the person level for population characteristics.

The 1990 census required data collection and processing procedures which were often complex and sometimes subject to error. Some error is introduced when a sample of the population is enumerated for a given item. This type of error is called sampling error. Estimates of sampling error are provided in all census publications. Other errors, called nonsampling errors, can result from the methods used to collect and process the data. Only response errors-those which come from erroneous or unreliable reporting of the characteristics-are evaluated in the CRS. A response error results from the assignment of a housing unit or a person to an incorrect category in a classification system. For example, if a person belongs to the citizenship category "born in the United States," a response error results from the assignment of that person to one of the other citizenship categories (appendix A, item 9 of the census questionnaire). These errors affect census data in a number of ways:

1. The errors may introduce bias into the estimate of the population parameter.
2. The errors create variability in the classification of an element over repeated trials.
3. The errors distort the relationship among the variables.

Response errors may be due to the questionnaire design, the interview mode (mail, telephone, personal visit), the wording of questions, or other causes. These
errors may be accidental due to a misunderstanding of the question, may be introduced purposely, or may arise from insufficient information on the part of respondents to provide accurate answers to a question. The enumerator may affect the accuracy of a response by the way he/ she asks questions or interprets and records responses. Errors introduced at the data processing stage are due primarily to the methods used to fill data items that were left blank during the data collection stage.

The effect of response errors on the quality of the data obtained for a particular category of a data item is reflected by the level of net and gross error associated with that category. For a particular category, response errors produce misclassifications both into and out of the category. The net error associated with a category represents the difference between the number of persons or housing units erroneously included in the category and those erroneously omitted from the category. The gross error represents the sum of those numbers, or the total number of response errors associated with the category. Thus, the net error reflects bias in the category while the gross error reflects the variability in the measurement process.

The 1990 Content Reinterview Survey was designed to provide estimates of response bias and simple response variance associated with many of the questions asked in the 1990 census. The format of the reinterview depended on whether response variance or response bias of the census characteristic was to be measured. To measure response variance, the reinterview attempted to apply the same survey procedures under the same general conditions as the census. To measure response bias, a more detailed questioning sequence was used. This was done to reduce the deficiencies in the original enumeration and to provide more accurate data.

## BACKGROUND

The Content Reinterview Survey (CRS) is the largest content evaluation conducted by the Census Bureau and is part of the 1990 Research, Evaluation, and Experimental (REX) program. A similar survey has been conducted after each decennial census since 1950.

The CRS includes as many census topics as possible while still considering cost and respondent burden. Priority is given to new data items and those which have substantively changed since the previous census. In addition, current applicability of previous census content error evaluations is considered. For some items in the CRS, a set of detailed probing questions allowed gathering data with a
degree of accuracy not possible in the census. That is, the CRS may be viewed as the "preferred" measurement technique. Comparison of the reinterview data with the census provides estimates of response bias present in the census data. Items evaluated using a response-bias (probing) type reinterview include:

Race
Place of birth
Citizenship
Educational attainment
Ancestry
Other languages spoken
Military service status
Class of worker
Disability
Work experience in 1989
Simple response variance was estimated for some items by asking the same question(s) asked in the census. Items evaluated using a response-variance type reinterview include:

Hispanic origin
Year of entry
School enrollment
Employment-industry
Although there is considerable emphasis on geographic detail in census data, an evaluation program cannot provide a separate analysis of each area for which census data are presented without incurring a cost many times that of the census itself. Therefore, only national statistics are presented for this analysis of the accuracy and reliability of the data. Given the size of the CRS sample, it is inappropriate to analyze the data for smaller geographic areas.

Chapter 2 of this report presents a description of the measures of response error which are used to assess the accuracy of selected data items. Interpretations of these measures also are discussed. Chapter 3 discusses all of the housing items which were included in the CRS. Tables of results including summary measures of response error
and discussions of the important findings for each housing characteristic are included. Chapter 4 presents similar data and analysis of the population items. That is followed by a complete description of the design of the Content Reinterview Survey and related operations in chapter 5. The last section of this report, chapter 6, addresses limitations of the survey and the data it collected. Following chapter 6 are a series of tables which present the response error measures for every census item that was evaluated. Appended to the report are facsimiles of the 1990 census questionnaire and the 1990 Content Reinterview Survey questionnaire, the computational formulas for the response error measures, and data comparison tables for the housing and population characteristics.

## EDITED CENSUS DATA

As the final processing step, census data go through a computer edit and allocation program. The edited census data contain imputations for missing data and corrections based on consistency checks. It is impossible to simulate these same edit and imputation procedures on the reinterview data. The census imputation procedures often involve using responses from a geographically adjacent housing unit; in the reinterview sample, an adjacent unit would not exist. Also, in many situations, the questions used in consistency checks in the census are excluded from the reinterview questionnaire.

Most of the data in this report are based on census data before application of the final edit and allocation procedures. Tabulations and response errors are available for the edited census data cross-tabulated with unedited reinterview data. However, they are not presented here as analysis revealed that there is very little difference between the response error measures calculated for the unedited or edited census data. Several of the items in the report (place of birth, ancestry, other languages spoken, and years of military service) are only available as edited data because their write-in responses had to be coded. The coding operation took place after the unedited file was made available. Therefore, edited census data are presented for the analysis of these items.

# CHAPTER 2. Measures of Response Error 

## ESTIMATING SIMPLE RESPONSE VARIANCE AND RESPONSE BIAS

Under certain fairly general survey conditions, matching information for identical housing units or persons from two sources, an original interview and a reinterview, can provide estimates of two response error measures. The first of these is simple response variance, and, to the extent that the reinterview data are based on more accurate measurement methods, estimates of the second response error measure, response bias, can be produced. The discussion that follows is not intended to be a rigorous development of the reinterview measures with respect to the assumptions required. It is a general overview. For a more thorough treatment of the topic, see Biemer (1985) and Biemer and Forsman (1992).

Consider the following two models describing the original census and reinterview observations. Let the members of the population be indexed by j and assume:

$$
\begin{gathered}
y_{1 j}=\mu_{j}+e_{1 j} \text { \$original interview model\$ } \\
y_{2 j}=\mu_{j}+e_{2 j} \text { \$reinterview model\$ }
\end{gathered}
$$

For the $\mathrm{j}^{\text {th }}$ member of the population, this can be expressed as:

$$
\text { Recorded value }=\text { True value }+ \text { Error }
$$

In general, $\mathrm{e}_{\mathrm{ij}}$ is the deviation of the recorded value $y_{i j}$ from its true value, $\mu_{\mathrm{j}}$. For categorical data, that is data where $\mu_{j}$ is either 0 or 1 , the possible values of $e_{1 j}$ and $e_{2 j}$ are 0,1 , or -1 . This assumes that in both the original and reinterview survey, the true value $\mu_{\mathrm{j}}$, for the $\mathrm{j}^{\text {th }}$ unit is the same. Of course, the errors $\mathrm{e}_{1 \mathrm{j}}$ and $\mathrm{e}_{2 \mathrm{j}}$ may be different for the original and reinterview. This leads to the following assumptions:

$$
\begin{aligned}
& E \$ e_{1 j \mathrm{j} j} \$=B_{1 \mathrm{j}} ; \quad E B_{1 \mathrm{j}}=\mathrm{B}_{1} \\
& E \$ \mathrm{e}_{2 j} \$ \$=\mathrm{B}_{2 j} ; \mathrm{EB}_{2 j}=\mathrm{B}_{2} \\
& \mathrm{~V} \$ \mathrm{e}_{1 \mathrm{j} \phi} \mathrm{j} \$=\sigma_{1 \mathrm{ij}}^{2} ; E \sigma_{1 \mathrm{j}}^{2}=\sigma_{1}^{2} \\
& \mathrm{~V} \$ \mathrm{e}_{2 \mathrm{j} \phi} \$ \mathrm{~S}=\sigma_{2 \mathrm{j}}^{2} ; \mathrm{E} \sigma_{2 \mathrm{j}}^{2}=\sigma_{2}^{2}
\end{aligned}
$$

$B_{1}$ and $B_{2}$ represent the response bias of the original and reinterview responses. $\sigma_{1}^{2}$ and $\sigma_{2}^{2}$ are the simple response variance for the original and reinterview responses; they are the average variance of responses from each population member to the same questions over repeated trials.

The means and variances of the errors $e_{1 j}$ and $e_{2 j}$ depend upon the general conditions under which the original interview and reinterview are conducted. The
prevailing political climate or socio-economic conditions in existence at the time of either interview are examples of uncontrolled general conditions that may affect responses. Examples of controlled general conditions that can also affect the responses are interview procedures, questionnaire design and wording, interview mode, experience/ training of the interviewers and the time of the year the interviews are obtained.

Let $G_{1}$ and $G_{2}$ represent the general conditions that prevailed during the original interview and reinterview, respectively. These conditions give rise to the error distributions $e_{1 j}$ and $e_{2 j}$. If $G_{1}=G_{2}$, that is, if all the general and controlled conditions affecting response error are the same for both the original interview and the reinterview, then, by definition, $B_{1}=B_{2}$ and $\sigma_{1}^{2}=\sigma_{2}^{2}$. Similarly, if $G_{1} \neq G_{2}$, that is, the general and/ or controlled conditions are not the same for the two interviews, then it is not necessarily true that $B_{1}=B_{2}$ or that $\sigma_{1}^{2}=\sigma_{2}^{2}$.

Table 2.1 illustrates the results of the comparison of the census data with reinterview data for a sample of $n$ units. The term units is used to denote either a person or a housing unit. A value of 1 is assigned to a unit classified as having some specified characteristic and the value 0 , otherwise. Units which have no response in either interview for the characteristic being studied are excluded. Table 2.1 shows that "a" of the units were classified as having the specified characteristic in both the census and the reinterview, " $a+b$ " were classified as having the characteristic in the reinterview and "a+c" were classified as having the characteristic in the census.

Table 2.1. Cross-Classification of Census Results by Reinterview Results


$$
\begin{gathered}
\mathrm{p}_{1}=\frac{\mathrm{a}+\mathrm{c}}{\mathrm{n}}=\begin{array}{c}
\text { proportion of units classified as having the characteris- } \\
\text { tic in the census. }
\end{array} \\
\mathrm{p}_{2}=\frac{\mathrm{a}+\mathrm{b}}{\mathrm{n}}=\begin{array}{c}
\text { proportion of units classified as having the the charac- } \\
\text { teristic in the reinterview. }
\end{array} \\
\mathrm{q}_{1}=1-\mathrm{p}_{1}=\frac{\mathrm{b}+\mathrm{d}}{\mathrm{n}}=\begin{array}{c}
\text { proportion of units classified as not having the } \\
\text { characteristic in the census. }
\end{array} \\
\mathrm{q}_{2}=1-\mathrm{p}_{2}=\frac{\mathrm{c}+\mathrm{d}}{\mathrm{n}}=\begin{array}{c}
\text { proportion of units classified as not having the } \\
\text { characteristic in reinterview. }
\end{array}
\end{gathered}
$$

The net difference rate (NDR) is defined as the expected difference between the estimates of $p$ ( $p$ being the percent in class) in the census and reinterview. The expected value equals:

$$
E \$ p_{1} \$ p_{2} \$=\$ B_{1} \$ B_{2} \$
$$

The net difference rate (NDR) is estimated by $\$ \frac{c \$ b}{\$}$. If the reinterview provides the truth, (i.e. $B_{2}=0$ ), the net difference rate estimates the bias in the census estimates; however, when the reinterview represents an improved procedure over the original survey (i.e. $B_{2}<B_{1}$ ), the net difference rate estimates the differential bias of the census and reinterview estimates. That is, the NDR underestimates the actual amount of bias in the census.

Simple response variance (SRV) measures the average variability, across population members, of responses to the same question over repeated trials. If the survey conditions are identical for both the original survey and the reinterview, and the errors are uncorrelated, an unbiased estimator of the SRV is $\mathrm{g} / 2$ where g is the rate of gross disagreement (called the gross difference rate) between the census and reinterview. Thus:

$$
g=\frac{b+c}{n}
$$

and
$\mathrm{E} \$ \frac{\mathrm{~g}}{2} \$=\frac{1}{2}\left\{\sigma_{1}^{2}+\sigma_{2}^{2}-2 \sigma_{12}\right\}$ where $\sigma_{12}$ is the correlation between the errors $\mathrm{e}_{1 \mathrm{j}}$ and $\mathrm{e}_{2 \mathrm{j} \text {. If }} \sigma_{2}^{2}=\sigma_{1}^{2}$, and $\sigma_{12}=0$, then ( $\mathrm{g} / 2$ ) provides an unbiased estimate of the simple response variance (SRV) of the census responses.

The impact of SRV on census data is gauged by its magnitude relative to the sum of the sampling variance and simple response variance. This ratio is called the index of inconsistency (I):

$$
I=\frac{S R V}{S V+S R V}
$$

where SV is the sampling variance. Here, the term sampling variance refers to the variance of the $\left(\mu_{j}+B_{1 j}\right)$ values from the census over members of the population.

The denominator of the index of inconsistency, SV + SRV, can be estimated by $\frac{1}{2} \$ p_{1} q_{2}+p_{2} q_{1} \$$. The purpose of pairing $p_{1}$ with $q_{2}$ is to prevent the erratic and meaningless fluctuations of the index of inconsistency for some questions when the values of $p_{1}$ and $p_{2}$ differ substantially. Therefore, the estimator of (I) can be written as:

$$
\begin{aligned}
\hat{l} & =\frac{g / 2}{\frac{1}{2} \$ p_{1} q_{2}+p_{2} q_{1} \$} \\
& =\frac{\$ b+c \$ / n}{\$ \frac{a+c}{n} \$ \$ \frac{c+d}{n} \$+\$ \frac{a+b}{n} \$ \$ \frac{b}{n} \$} \\
& =\frac{b+c}{\frac{1}{n} \$ \$ a+c \$ \$ c+d \$+\$ a+b \$ \$ b+d \$ \$}
\end{aligned}
$$

In this report, all estimates of the index have been multiplied by 100 so that the computed values can be discussed as percentages.

If the reinterview is not an identical repetition of the census procedure, but represents a less error prone and less variable measurement procedure than the census, the gross difference rate $(\mathrm{g})$ is an underestimate of the simple response variance. The estimated index of inconsistency will thus underestimate the true index.

Appendix B provides details on the computational formulas for the net difference rate and index of inconsistency. Since these measures are estimated from a sample, they are subject to sampling error. The formulas used for calculating the 90-percent confidence intervals on these estimates are also provided in appendix $B$, along with numerical examples of the computations.

## INTERPRETING VALUES OF THE INDEX OF INCONSISTENCY AND THE NET DIFFERENCE RATE

There are several ways of interpreting the estimated index of inconsistency, depending on the methodology used to collect the reinterview data. Although each interpretation uses different terms, each is closely related to the other. The interpretations are:

1. If each of the two observations (the census and the reinterview in this case) is regarded as an independent repetition of the same survey procedure under the same general conditions, the index of inconsistency estimates the ratio of simple response variance to the sum of the sampling variance and simple response variance. In this case, as noted by Biemer (1985), the index of inconsistency measures the impact of misclassification errors on the total variance of an observation.

When identical responses are obtained from observation to observation for each person or housing unit, the simple response variance is zero and the value of the index of inconsistency is zero. When the responses are so variable that simple response variance equals the sum of the sampling variance and the simple response variance, the value of the index is 100.
2. The index of inconsistency may also be interpreted as the complement of a measure of agreement between the census and the reinterview responses. Viewed in this way, the index is the ratio of the observed number of response differences to the number that would occur if the cell counts were formed by a random agreement mechanism based on the observed marginal distributions (census and reinterview). Under this interpretation, the index measures inconsistency (lack of agreement) on a scale from zero (perfect consistency or agreement) to 100 (complete lack of consistency or agreement).

When the second observation is not an attempt to repeat the original interview procedure but, may represent an "improved" data source, the estimated index of inconsistency is almost sure to be an understatement of the ratio of the simple response variance of the original interview procedure to the sum of the sampling variance and simple response variance. The interpretation of the index in these terms as given in paragraph 1 is, therefore, questionable. The interpretation of the index given in paragraph 2 is appropriate, however, even when the second observation is not an attempt to repeat the original interview procedure identically.

For the characteristics evaluated by the responsevariance type of reinterview, the interpretation of the index of inconsistency given in paragraph 1 is more appropriate. For the characteristics evaluated by a response-bias type of reinterview, the interpretation given in paragraph 2 for the index of inconsistency is considered to be more appropriate since the reinterview data are expected to be more accurate than the census data.

Values of the index of inconsistency are computed and displayed for each response category in a distribution. For distributions with more than two categories, an index of inconsistency for the entire distribution, referred to as an L-fold index of inconsistency, $\mathrm{I}_{\mathrm{L}}$, is also displayed. This L-fold index is a weighted average of the individual indexes computed for each category of the distribution. The weights are the values of the total variance for the individual response categories. When there are only two categories in an item, the index of inconsistency and the L-fold index are identical.

It should be noted that the level of the index is sensitive to the number and detail of the categories in a classification system as well as to the distribution of the population over the categories. As the detail of the categories is decreased, the index cannot increase and most likely will decrease. The response variance associated with a particular distribution may be decreased to some extent by collapsing the categories of the distribution. The L-fold index is less sensitive to this collapsing than indexes for the individual categories.

The indexes of inconsistency associated with the distribution are useful in evaluating whether the data collection method is adequate for providing valid measures of the characteristic. For the purpose of evaluating the adequacy of a data-collection system, a general rule of thumb for the interpretation of $I$ and $I_{L}$ is that indexes lower than 20 are small, indicating that response variability is not a major problem for this category or item; indexes between 20 and 50 are moderate, indicating that there is some problem with inconsistent reporting and there is need to improve the question or the data collection method to eliminate the variability in response. Values of the index greater than 50 are an indication that the responses are unreliable and that
(1) improvements are required in the method used to collect these data, (2) the concept itself may not be measurable by census data collection methods, or (3) respondents are not able to provide accurate data to the detail desired. See table 2.2.

The net difference rate, under the assumption that the reinterview measures the true value of a characteristic, gives an estimate of the amount of bias in each category of a data item. However, in most cases, the reinterview may only be an improved measurement procedure and represents more accurate data, on average, than the census, but not necessarily the truth. In this case, the net difference rate provides an underestimate of the bias in the category. Bias in a particular category of a distribution is indicated when the 90 percent confidence interval of the net difference rate does not include zero as a possible value. A positive net difference rate for a particular category indicates that the characteristic was overreported in the census; the estimated percent in class based on the census responses is greater than the estimated percent in class based on reinterview responses. Conversely, a negative net difference rate indicates that the characteristic was underreported in the census; the estimated percent in class based on the census responses is less than the estimated percent in class based on reinterview responses. Guidelines for interpreting the magnitude of a net difference rate, based upon Census Bureau experience, are provided in table 2.2.

Table 2.2. Guidelines for Interpreting the Magnitude of Response Error Measures

| Response error measure | Low | Moderate | High |
| :--- | ---: | ---: | ---: |
| Index of Inconsistency, I......... | $<20$ | $20-50$ | $>50$ |
| L-fold Index of Inconsistency, $\mathrm{I} \ldots$ | $<20$ | $20-50$ | $>50$ |
| Ratio of the net difference rate to <br> the population mean or proportion |  |  |  |
| (absolute value), \| NDR/P |........ | $<.01$ | $.01-.05$ | $>.05$ |

Tables 1, 2, 3, and 4 presented after chapter 6 give the summary measures of response error for each of the analyzed census characteristics. These tables show summary measures of response error for the distributions of unedited census data for each of the categories of an item. The tables give the following measures:

- Total number of recorded responses
- Percent in class for both the census and reinterview
- Estimated index of inconsistency \$ $\$$ and 90 -percent confidence limits
- Estimated L-fold index of inconsistency \$î\$ and 90percent confidence limits
- Net difference rate and 90-percent confidence limits.


# CHAPTER 3. Evaluation of Responses for Selected Housing Characteristics 

## INTRODUCTION

The housing questions evaluated by the Content Reinterview Survey (CRS) are:

Description of building
Size of lot
Agricultural sales
Tenure
Number of autos, trucks and vans
Monthly rent
Meals included in rent
Year built
Plumbing facilities
The first three of these characteristics received a response variance type reinterview. The remaining items received a response bias type reinterview.

Data comparison tables for each item are presented at the U.S. level in appendix C. Response error measures for all items are presented in table 1 (response variance items), on page 32, and table 2 (response bias items), on page 33, at the U.S. level. These two tables also show summary measures of response error by Black householder, non-Black householder, Spanish/ Hispanic householder, nonSpanish/ Hispanic householder, and non-Black and nonSpanish/Hispanic householder. Each of these subgroups was determined based on census responses. Table E. 1 in appendix E shows which census questions were used for this purpose. Facsimiles of both the census and reinterview questions are shown in appendix $A$. The census and reinterview item numbers from the questionnaire are listed in parentheses following the item name, in this chapter.

## RESULTS FOR HOUSING CHARACTERISTICS WITH RESPONSE VARIANCE TYPE REINTERVIEWS

Only three housing items were reinterviewed by asking the same question as was asked in the census. The three items:

Description of building
Size of lot
Agricultural sales
showed moderate inconsistency in response between the census and the reinterview.

As shown in table 3.1, where sufficient data are available, the items are reported more consistently by nonBlack householders than they are by Black householders.

Table 3.1. Index of Inconsistency Estimated From Response Variance Type Reinterviews

| Characteristic | 1990 |  |
| :---: | :---: | :---: |
|  | L-fold index of inconcistency | 90-percent confidence interval |
| Description of building |  |  |
| Total units | 21.9 | 21.0 to 23.0 |
| Black householder. | 29.2 | 26.3 to 32.6 |
| Non-Black householder | 21.0 | 20.0 to 22.1 |
| Spanish/ Hispanic householder | 33.2 | 29.3 to 37.9 |
| Non-Spanish/ Hispanic householder. | 21.2 | 20.2 to 22.3 |
| Non-Black and non-Spanish/ Hispanic householder | 20.1 | 19.0 to 21.3 |
| Size of lot |  |  |
| Total units | 27.8 | 26.4 to 29.4 |
| Black householder | 67.3 | 58.6 to 77.8 |
| Non-Black householder | 25.4 | 23.9 to 27.1 |
| Spanish/ Hispanic householder | 63.7 | 50.3 to 81.6 |
| Non-Spanish/ Hispanic householder. . | 27.2 | 25.7 to 28.8 |
| Non-Black and non-Spanish/ Hispanic householder | 24.8 | 23.3 to 26.5 |
| Agricultural sales |  |  |
| Total units | 41.7 | 36.2 to 48.2 |
| Black householder | ... |  |
| Non-Black householder | 40.0 | 34.5 to 46.4 |
| Spanish/ Hispanic householder | ... |  |
| Non-Spanish/ Hispanic householder. | 41.2 | 35.6 to 47.7 |
| Non-Black and non-Spanish/ Hispanic householder | 39.6 | 34.0 to 46.1 |

... Not sufficient data to report response error measures

Non-Spanish householders report more consistently than Spanish householders. The most consistent data for these items came from non-Black non-Spanish householders.

## Description of Building <br> (Census H2, Reinterview H1)

The item on description of building asked about the type of building and the number of units (apartments) in a structure. Data were also collected for a similar item in the 1980 Reinterview. In both surveys, the data were found to be in the moderately inconsistent range (table 3.2). Although in the same range, the trend for the index is downward, indicating that the 1990 data are a little more consistent.

In 1990, owner occupants reported on building description and the size of their structure with low inconsistency. Responses for renter occupied units were a little more inconsistent as might be expected, since many of these units are in multi-unit structures. For the categories asking about a 1-family house, "a 1-family house detached from

Table 3.2. L-Fold Indexes of Inconsistency

| Characteristic | 1980 |  | 1990 |  | 1990-Owner |  | 1990-Renter |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | L-fold index of inconsistency | 90-percent confidence interval | L-fold index of inconsistency | 90-percent confidence interval | L-fold index of inconsistency | 90-percent confidence interval | L-fold index of inconsistency | 90-percent confidence interval |
| Description of building . . . . . . . . . . . . | 30.0 | 26.4 to 33.0 | 21.9 | 21.0 to 23.0 | 18.4 | 17.0 to 20.0 | 31.0 | 29.5 to 32.6 |

any other house" is reported consistently, but "a 1-family house attached to one or more houses" causes some response problems. This is indicated by the differences in individual indexes of inconsistency for these two categories ( 9.4 versus 33.8 from table 1, page 32).

## Size of Lot

(Census H19a, Reinterview H9) and

## Agricultural Sales

(Census H19b, Reinterview H10)
The item on size of lot, asking respondents in single unit housing if their house is on less than 1 acre, was reported with moderate inconsistency between the census and the reinterview (L-fold = 27.8, table 1). This item is used to help classify farm residence.

The other criteria for being classified as a farm residence was the actual sale of agricultural products from the property. Sales of agricultural products must exceed $\$ 1,000$ to be classified as a farm residence. This agricultural sales question was asked of all housing units which reported they were on one or more acres. This item on agricultural sales was also reported with moderate inconsistency between the census and CRS, indicating that there is a need to improve the question to eliminate the variability in response (L-fold = 41.7, table 1). Almost 90 percent of the units report to the category "None" and 4.5 percent reported in the largest dollar value category, " $\$ 10,000$ or more." While these categories are reported with moderate inconsistency, much of the inconsistency in reporting comes from the responses to the smaller "in between" categories, as might be expected.

A combination of these two questions is used to classify a housing unit as farm residence. Combining data from the two items yield the table 3.3 below.

The index of inconsistency for this table is 34.0, indicating moderate inconsistency between the census and the CRS.

Table 3.3. Nonfarm Versus Farm Residence

| Reinterview classification | Census classification |  |  |
| :---: | :---: | :---: | :---: |
|  | Reported | Nonfarm | Farm |
| Reported | 7,576 | 7,429 | 147 |
| Nonfarm. | 7,444 | 7,390 | 54 |
| Farm. | 132 | 39 | 93 |

## RESULTS FOR HOUSING CHARACTERISTICS WITH RESPONSE BIAS TYPE REINTERVIEWS

For the remainder of the housing questions:
Tenure
Number of autos, vans, and trucks
Monthly rent
Meals included in rent
Year built
Plumbing facilities
a response bias type reinterview was conducted. More detail on each particular subject was sought.

Table 3.4 shows the 1990 L-fold index of inconsistency for these items and the 1980 index when comparable data are available. Most items exhibited moderate inconsistency in 1990, except tenure and plumbing facilities. The indexes are about the same as those measured in the 1980 census.

## Tenure

(Census H4, Reinterview H2a, H2b)
As noted in [19], tenure provides the count of owner occupied and renter occupied units that is basic to most housing unit tabulations and analyses. Historically, owneroccupancy rates collected in direct interview surveys have been slightly higher than those collected in the census. The 1980 census question included one ownership category and two rental categories. In the 1990 census, in order to improve understanding of the ownership concept, the tenure question was changed to include reference to ownership with a mortgage or loan and ownership without a mortgage; that is, "owned free and clear."

Based on the CRS data, there is an indication that the reported ownership rate is slightly understated in the 1990 census. The inconsistency in the reporting of owner occupied versus renter occupied is in the low range. Table 3.5 shows the net difference rate and index of inconsistency for the collapsed two response category tenure distribution, owner versus renter occupied.

Table 2 shows the response error measures for a more detailed four response category tenure distribution. These data indicate that in comparison to the CRS, the category "Owned by you or someone else in this household with a mortgage or loan" is overstated while the category "Owned by you or someone in this household free and clear (without a mortgage)" is understated in the census. The

Table 3.4. L-Fold Indexes of Inconsistency Estimated From Response Bias Type Reinterviews

| Characteristic | 1990 |  | 1980 |  |
| :--- | ---: | ---: | ---: | ---: |
|  |  | L-fold index of <br> inconsistency | 90 -percent <br> confidence interval | L-fold index of <br> inconsistency |

- Not applicable.
... Not sufficient data to compute response error measures.
${ }^{1}$ Shown for 2 categories in 1990 and 3 categories in 1980.
${ }^{2}$ Does not include "Don't know" category.
net effect of these differences on the overall owner category, an understatement in the census, is shown in table 3.5. Table 2 also shows that the "Rented for cash rent" category is overstated. No measurable difference exists between the census and the CRS for the "Occupied without payment of cash rent" category.

Analysis of the inconsistent reporting patterns in the census and CRS (table C.4) indicates almost 5 percent of the units reported as "Rented for cash rent" in the census were categorized as "Owned by you or someone in this household with a mortgage or loan" in the CRS. About 85 percent of the occupants in these units indicated by their responses to the reinterview that they, in fact, had a mortgage. These inconsistent reports are a major cause of the apparent difference between the census and the CRS tenure (owner/ renter) distribution. These reporting differences could be due to a difference in the time period of the census and CRS interviews.

Table 3.5. Response Error Measures for Tenure: Owner Occupied Versus Renter Occupied

| Tenure | Percent in <br> class |  | Net <br> differ- <br> ence <br> rate | 90-percent <br> confidence <br> interval | Index <br> of <br> incon- <br> sis- <br> tency | 90-percent <br> confidence <br> interval |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
|  | Census | CRS |  |  |  |  |
| Owner .. | 71.0 | 71.8 | $*-0.8$ | -1.0 to -0.4 | 8.3 | 7.6 to 9.0 |
| Renter .. | 29.0 | 28.2 | $* 0.8$ | 0.4 to 1.0 | 8.3 | 7.6 to 9.0 |

* Indicates significance at the 10-percent level.


## Number of Autos, Vans and Trucks <br> (Census H13, Reinterview H8a, H8b)

Number of autos, vans and trucks was asked as one question in the 1990 census. Automobiles was asked separately from vans and trucks in the CRS. Comparing the two results, the data were found to be moderately inconsistent (L-fold index $=32.1$ ). In 1980, the two questions were asked individually and the L-fold indexes were about the same level (table 3.4).

While the overall inconsistency is moderate, the more vehicles reported, the more inconsistent the data become. The category "None" is reported most consistently.

Compared to the CRS, there was some evidence of bias in the census data. The category "None" shows overreporting in the census. For households who reported "None" in the census, but reported differently in the reinterview, almost 75 percent reported " 1 " in the CRS. There is some evidence that the category " 4 " may be underreported in the census.

## Monthly Rent

(Census H7a, Reinterview H3a, H3b, H3c, H3d, H3e, H3f, H3g) and

## Meals Included in Rent

(Census H7b, Reinterview H4a, H4b, H4c, H4d)
The census asked monthly rent for respondents who said they pay rent. They could select from 26 categories ranging from "Less than $\$ 80$ " to " $\$ 1,000$ or more." The data were reported with moderate inconsistency between the census and reinterview (L-fold = 34.7). The last two categories, which are the highest dollar amounts and the two broadest categories, are reported more consistently than all the other categories (table 2).

Monthly rent was not evaluated in 1980. In the 1970 reinterview, the rent data were reported consistently with that census. However, the 1970 question only had 14 reporting categories compared to 26 in 1990, so this L-fold index $(I=11.0)$ is not directly comparable to the 1990 data.

Additional probing questions about monthly contract rent were asked in the CRS. About 300 householders, 12 percent of those reporting rent, said that the federal, State or local government pays part of their rent. About 55 percent of them said they included that amount in the rent they reported. The remaining 45 percent said they did not include the amount in their reported rent. Those who did not include the payment in their rent were asked how much
of the monthly rent was paid by the government. The amounts reported ranged from $\$ 46$ to $\$ 760$ with the average amount being $\$ 309$.

In the CRS, renters were also asked if someone living outside their house/ apartment, other than the government, paid part of their rent. About 2.2 percent of those reporting rent, 55 householders, said someone else paid part of their rent. Eighty-eight percent said they included that amount in the rent they reported in the CRS. The remaining 12 percent said they did not include the amount in their reported rent. Those who did not include the payment in their rent were asked how much of the monthly rent was paid by someone outside the household other than the government. The reported amounts ranged from $\$ 110$ to $\$ 425$ with the average being $\$ 265$.

For all householders in the CRS who indicated that they did not include the additional payments, the payments were added to their reported contract rent. New rent tables were created using these data and are shown in appendix E. Table E. 2 shows the response error measures based on the new data shown in table E.3. These data indicate that contract rent is still reported with moderate inconsistency (L-fold $=35.0$ ), even after the additional payments are included.

Households that rent their units for cash rent were asked "Does the monthly rent include any meals?" to help identify congregate housing. This item was asked for the first time in the 1990 census. There were not enough housing units responding positively to this question to allow response error measures to be precisely computed.

Five households reported in the reinterview that their monthly rent included meals. Only two of these households had given that same response in the census. Of these five households, three reported that their rent included one meal, one said it included two meals, and one household reported having monthly rent include three or more meals per day.

Out of 2,463 households reporting in the CRS, one-half of 1 percent reported that their monthly rent included the availability of a professional medical person (doctor, nurse,
physical therapist, etc.) on the premises. Another one-half of 1 percent of those reporting on this item in the reinterview said the monthly rent included convalescent facilities on the premises. One percent said their monthly rent included transportation for shopping or recreational needs.

## Year Built

(Census H17, Reinterview H7)
As noted in [19], analysis of the 1980 census data showed that in many communities the number of housing units built in 1939 or earlier was underreported. To resolve some of this problem, particularly for renters, the 1990 census included a "Don't Know" category. The conjecture was that respondents who did not know the year the unit/ structure was built would answer "Don't Know" rather than guess the year built incorrectly and that the majority of the "Don't know" responses would actually have been built in 1939 or earlier. Subsequent computer processing could assign (allocate) a year built response that was, on average, more accurate.

The main objectives of the CRS for the year built item were to compare the year built distribution of the computer allocated values for the "Don't Know" responses to the census question versus the CRS responses and to determine the effect of the allocation procedure on the overall quality of the census year built data. The CRS, therefore, included a year built question without a "Don't Know" category. This analysis has been included under the response bias section since the evaluation focuses on the effect of the computer allocation procedure on the year built distribution.

Table 3.6 shows the year built distribution using the allocated values versus the CRS responses for the census "Don't Know" responses. The net difference rates and their 90-percent confidence intervals are also shown.

These data indicate that the computer allocation procedure tended to assign the " 1939 or earlier" category at a substantially lower rate (29.5) than that indicated by the

Table 3.6. Year Built Distribution: Allocated Values Versus CRS Response for Census "Don't Know" Responses

| Year built | All units |  |  |  | Owner occupied |  |  |  | Renter occupied |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Percent in class |  | Net difference rate | 90-percent confidence interval | Percent in class |  | Net difference rate | 90-percent confidence interval | Percent in class |  |  | 90-percent confidence interval |
|  | Census (allocated) | CRS |  |  | Census (allocated) | CRS |  |  | Census (allocated) | CRS |  |  |
| 1989 or 1990 | 0.4 | 1.0 | *-0.6 | -1.2 to -0.1 | 0.6 | 0.8 | -0.2 | -1.1 to 0.7 | 0.3 | 1.3 | *-1.0 | -1.8 to -0.2 |
| 1985 to 1988 . | 4.8 | 2.4 | * 2.4 | 1.3 to 3.6 | 3.1 | 1.2 | * 1.9 | 0.4 to 3.4 | 5.9 | 3.3 | * 2.7 | 0.9 to 4.5 |
| 1980 to 1984 | 6.5 | 4.7 | * 1.7 | 0.3 to 3.2 | 5.2 | 2.1 | * 3.1 | 1.2 to 5.0 | 7.5 | 6.9 | 0.6 | -1.6 to 2.7 |
| 1970 to 1979 . | 19.3 | 15.8 | * 3.5 | 1.2 to 5.8 | 15.3 | 9.5 | * 5.8 | 2.8 to 8.8 | 22.2 | 20.2 | 2.0 | -1.4 to 5.3 |
| 1960 to 1969 | 13.3 | 12.7 | 0.6 | -1.5 to 2.6 | 10.4 | 10.8 | -0.4 | -3.2 to 2.4 | 15.4 | 14.3 | 1.1 | -1.9 to 4.2 |
| 1950 to 1959 | 14.3 | 13.6 | 0.7 | -1.5 to 2.9 | 14.5 | 11.6 | 2.9 | -0.4 to 6.2 | 14.7 | 15.0 | -0.3 | -3.3 to 2.7 |
| 1940 to 1949 . | 11.9 | 10.7 | 1.3 | -0.8 to 3.3 | 11.8 | 10.8 | 1.0 | -2.2 to 4.2 | 11.5 | 10.9 | 0.6 | -2.1 to 3.2 |
| 1939 or earlier. | 29.5 | 39.1 | *-9.6 | -12.1 to -7.0 | 39.2 | 53.3 | *-14.1 | -18.4 to -9.8 | 22.4 | 28.0 | *-5.7 | -8.9 to -2.4 |

[^0]CRS responses (39.1) and to allocate units in the 1970 or earlier categories at a higher rate (except for the "1989 or 1990" category) than indicated by the CRS responses. This was true of both owner and renter occupied units.

Table 3.7 shows the indexes of inconsistency for those units providing a year built response in the census other than "Don't Know." Overall, the responses excluding "Don't Know" are in the moderately inconsistent range, (L-fold = 27.6).

Table 3.8 shows the Census and CRS year built distributions and net difference rates for all units, both those where a response was obtained in the census and the allocated values for the "Don't Know" responses. This table also includes the individual category indexes of inconsistency and the L-fold index of inconsistency.

In general, it appears that compared to the CRS distribution, the "1939 or earlier" category in the census is biased downward, while the "1940 to 1949" and "1950 to 1959" categories are biased upward. Also, the L-fold index increased to 36.7 as a result of the allocation of the "Don't Know" responses. The indexes for the individual categories all increased as well. Similar results are apparent for both owner and renter occupied units (tables E. 4 and E. 5 in appendix E). It must be emphasized that these data cannot be used to evaluate the accuracy of year built data in the sense that the CRS data provide, on average, more accurate responses. Rather, the data in table 3.8 reflect a comparison of the year distributions using two different questions. One question included a "Don't Know" category (census) and one did not include that category (CRS).

Table 3.7. Indexes of Inconsistency Excluding Census Responses of "Don't Know": All Units

| Year built | Index of inconsistency | 90-percent confidence level |
| :---: | :---: | :---: |
| 1989 or 1990 | 42.4 | 36.0 to 50.0 |
| 1985 to 1988 | 21.2 | 19.2 to 23.4 |
| 1980 to 1984 | 33.0 | 30.5 to 35.7 |
| 1970 to 1979 | 22.7 | 21.3 to 24.3 |
| 1960 to 1969 | 32.2 | 30.3 to 34.3 |
| 1950 to 1959 | 32.2 | 30.2 to 34.4 |
| 1940 to 1949 | 42.2 | 39.2 to 45.5 |
| 1939 or earlier | 17.1 | 15.7 to 18.5 |
| L-fold index. | 27.6 | 26.7 to 28.6 |

## Plumbing Facilities

(Census H10, Reinterview H6a, H6b, H6c)
In previous censuses, questions have been asked about source of water, flush toilet, and bathtub or shower. All of these items relate to the quality and value of housing. The 1990 census had one question on the sample questionnaire asking about COMPLETE plumbing facilities. Complete plumbing facilities consist of 1) hot and cold piped water, 2) a flush toilet, and 3) a bathtub or shower. The 1990 question was worded to elicit a "Yes" and "No" type response for the whole item. In the reinterview, inquiry into each of the components was made separately. A comparison of the CRS data collapsed to compare it to the "Yes" and "No" categories of the census indicates no bias in the distribution, but the data are somewhat inconsistent (L-fold index $=53.8$ from table 2, page 34).

The lack of consistency in reporting for this item is not so much due to reporting problems in the category "Yes, have all three facilities," as it is in the lack of consistency of reporting in the category, "No." Over 99 percent of the households reporting "Yes" in the census also did so in the reinterview. However, only 44 percent of those answering "No" in the census reported the same in the reinterview (table C.5).

The majority of households (68 percent) who said they had complete plumbing facilities in the census, but reported less than complete facilities in the reinterview, had two of the three necessary facilities when the items were asked individually in the CRS.

The 1980 question, a 100-percent item, asked about the presence of some but not all plumbing facilities. In 1980, the respondent was asked to indicate whether the facilities were used exclusively by household members or were used by another household.

The index of inconsistency in 1990 was not significantly different from that in 1980. Caution should be used in making this comparison because the plumbing item had four response categories in the 1980 census and only two in 1990. The 1990 data appear to be an improvement over 1980 when one of the four categories, "Yes, but also used by another household," showed a large upward bias. There is no evidence of bias in the 1990 data.

Table 3.8. Indexes of Inconsistency and Net Difference Rates for Year Built Including Allocated Census Values

| Year built | Percent in class |  | Net difference rate |  | Index of inconsistency |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Census ${ }^{1}$ | CRS | Estimate | 90-percent confidence level | Estimate | 90-percent confidence level |
| 1989 or 1990. . | 1.1 | 1.5 | * -0.4 | -0.6 to -0.2 | 52.3 | 45.2 to 60.7 |
| 1985 to 1988 | 8.2 | 8.3 | -0.1 | -0.4 to 0.3 | 27.3 | 25.1 to 29.7 |
| 1980 to 1984 | 8.7 | 8.4 | 0.3 | -0.2 to 0.7 | 39.1 | 36.5 to 42.0 |
| 1970 to 1979 | 22.6 | 22.7 | -0.2 | -0.7 to 0.4 | 31.5 | 30.0 to 33.0 |
| 1960 to 1969 | 15.9 | 15.7 | 0.2 | -0.4 to 0.8 | 40.7 | 38.8 to 42.8 |
| 1950 to 1959 | 15.1 | 14.2 | * 0.9 | 0.3 to 1.4 | 41.6 | 39.6 to 43.8 |
| 1940 to 1949 | 8.9 | 8.3 | * 0.7 | 0.2 to 1.2 | 53.3 | 50.3 to 56.6 |
| 1939 or earlier. | 19.4 | 20.8 | *-1.3 | -1.9 to -0.8 | 29.1 | 27.5 to 30.7 |
| L-fold index |  |  |  |  | 36.7 | 35.8 to 37.7 |

# CHAPTER 4. Evaluation of Responses for Selected Population Characteristics 

## INTRODUCTION

The population questions evaluated by the Content Reinterview Survey (CRS) are:

Hispanic origin
School enrollment
Year of entry
Employment-industry
Place of birth
Military service
Citizenship
Race
Ancestry
Language usage
Industry and occupation-class of worker
Educational attainment
Work experience in 1989
Disability
Hispanic origin and race were collected on a 100percent basis in the census. All others were asked of a sample of respondents. The first four of these characteristics above received a response variance type reinterview. The remaining items received a response bias type reinterview.

Data comparison tables for each item are presented at the U.S. level in appendix D. Response error measures for all items are presented in table 3 (response variance items) on page 36, and table 4 (response bias items) on page 38, at the U.S. level. Summary measures for the population characteristics by subgroup are also given in these tables. Table E-6, in appendix E, shows which questions were used to determine the subgroups. Facsimiles of the questions asked in both the census and the reinterview are shown in appendix $A$. The census and the reinterview item numbers from the questionnaire are listed in parentheses following the item name in this chapter.

## RESULTS FOR POPULATION CHARACTERISTICS WITH RESPONSE VARIANCE TYPE REINTERVIEWS

Several population items were repeated in the CRS just as they were asked in the census:

[^1]These response variance type reinterviews produced indices in the low range for data on Hispanic origin and school enrollment. More moderate inconsistency was found between the two data sources for the information on year of entry and employment industry (table 4.1).

## Hispanic Origin

(Census 7, Reinterview 7a, 7b)
A question on Spanish/ Hispanic origin was first asked in the 1970 census. It was asked of a 5-percent sample of the households. In the 1970 reinterview, a more detailed set of probing questions, a response bias type of reinterview, was conducted. The estimated proportion of persons reporting Hispanic origin in the 1970 census, 3.7 percent, was slightly less than the corresponding proportion in the reinterview, 4.0 percent. This bias was found to be significant at the 95 -percent level of confidence.

Hispanic origin data, which received a response variance type reinterview in the 1980 CRS, exhibited a low level of response variability (L-fold = 13, table 4.1).

The Hispanic origin question was asked of everyone in the 1990 census; that is, it was a 100-percent item. For 1990, as noted in [15] ${ }^{1}$, a space was added in this item for persons of "Other Spanish/ Hispanic" origin to specify their background. Examples of "Other Spanish/ Hispanic" origin groups were also added. This inquiry was reworded and instructions were expanded.

In the 1990 reinterview, the Hispanic origin question received a response variance type treatment; that is, the same basic question was asked as was asked in the census. The data from the 1990 CRS for Hispanic origin

[^2]Table 4.1. L-Fold Index of Inconsistency-Response Variance Type Reinterviews

| Reinterview characteristic | 1990 |  | 1980 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | L-fold index of inconsistency | 90-percent confidence interval | L-fold index of inconsistency | 90-percent confidence interval |
| Hispanic origin. | 12.2 | 11.2 to 13.2 | 13.0 | 11.3 to 14.2 |
| School enrollment . | 17.3 | 16.6 to 18.0 | - | - - |
| Year of entry ${ }^{1}$ | 23.0 | 21.1 to 25.2 | 13.0 | 11.2 to 15.8 |
| Employmentindustry | 32.6 | 31.6 to 33.7 | - | - - |

[^3]exhibited low levels of response variability. Four of the five response categories showed very low levels of inconsistency. Only the category "Yes, other Hispanic" displayed moderately high inconsistency.

Those people who reported "No, not Hispanic" in the census and then reported "Yes, other Hispanic" in the CRS contributed to this variability. In looking at the write-in responses for these people, almost one-third did not provide a write-in response. Of those who did provide a write-in response after indicating they were "Other Hispanic", almost 96 percent reported an actual Spanish/ Hispanic group indicating they truly are of Hispanic descent. Why they would report "Not Hispanic" in the census is unexplained. On the other side, for those reporting "Yes, other Spanish/Hispanic" in the census, then saying "No, not Spanish/ Hispanic" in the reinterview, of those who provided a write-in entry, 73 percent listed a Spanish/ Hispanic group and 27 percent gave a group that was not Spanish/ Hispanic. Again, there seems to be no plausible explanation for this reporting inconsistency.

These results are almost identical to those obtained from the 1980 Content Reinterview. This suggests that the reporting problems have not changed over the decade.

In the past, there has been some concern about nonresponse rates to the Hispanic origin question. The allocated response in the census, for those who did not respond to the item, was compared to the response reported in the CRS. There are 792 persons for whom this comparison can be made for Hispanic origin. Table 4.2 shows this cross-classification.

These results suggest that the allocation procedure is fairly accurate, especially at the $\mathrm{No} / \mathrm{Yes}$ level. The collapsed $\mathrm{No} / \mathrm{Yes}$ cross-classification is given in table 4.3.

At the No/ Yes level, it cannot be concluded that the census and the CRS distributions are different.

Table 4.2. CRS Versus Allocated Census Data for Hispanic Origin

| Reinterview classification | Census classification (allocated) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Allo-cated- | No | Mexican | Puerto Rican | Cuban | Other |
| Reported ........ | 792 | 745 | 13 | 3 | 1 | 30 |
| No (not Hispanic) . | 742 | 730 | 4 | 3 | 1 | 4 |
| Mexican.... | 22 | 8 | 6 | 0 | 0 | 8 |
| Puerto Rican. | 2 | 2 | 0 | 0 | 0 | 0 |
| Cuban | 2 | 1 | 0 | 0 | 0 | 1 |
| Other | 24 | , | 3 | 0 | 0 | 17 |

Table 4.3. CRS Versus Allocated Census Data for Hispanic Origin

| Reinterview classification | Census classification (allocated) |  |  |
| :---: | :---: | :---: | :---: |
|  | Allocated | No | Yes |
| Reported | 792 | 745 | 47 |
| No (not Hispanic) | 742 | 730 | 12 |
| Yes. | 50 | 15 | 35 |

## School Enrollment

(Census 11, Reinterview 10)
School enrollment, whether a person has attended school or college, public or private, just prior to the census, was consistently reported. Prior reinterview data is not available on this item. Collapsing these data to a "Yes" and "No" distribution yields consistently reported data. There is some inconsistency between the reporting of public versus private education.

There is an indication of bias in the "No/ Yes" distribution. "No, has not attended since February 1 " is overstated in the census. The combined "Yes" categories are understated in the census. However, since these data were collected in a response variance type reinterview, it is unclear whether this is reporting bias or whether there may be some other reason. For example, the difference in the timing of the census and the CRS interviews could be a cause.

## Year of Entry

(Census 10, Reinterview 9c)
Year of entry, asking when those born outside the United States came to the United States to stay, shows response variability in the moderate range. The L-fold index of inconsistency is 23 . Year of entry for 1980-81 was the only response category for which the difference in the census and CRS distributions was statistically significant.

The same question was asked in 1980 and was reported with low response variability (L-fold = 13, table 4.1). Since there were only 6 possible response categories in 1980 and the 1990 item had 10 response choices, the increase in the level of response variance is likely attributable to the difference in the number and width (in years) of the response categories.

## Employment-Industry

(Census 28c, Reinterview 35c)
The question on industry sector serves as a tool for obtaining accurate industry codes for the three most difficult industry groups (manufacturing, wholesale trade, and retail trade) when the entries to the kind of business or company name items are missing or incomplete. ${ }^{2}$

These data are reported with moderate inconsistency ( $\mathrm{I}=32.6$ from table 3) between the census and the reinterview. The "Wholesale trade" category is highly inconsistent indicating respondents have a problem reporting these data. There is no measurable difference in the inconsistency of these data by sex or by race from the total distribution.
${ }^{2}[13]$

## RESULTS FOR POPULATION CHARACTERISTICS WITH RESPONSE BIAS TYPE REINTERVIEWS

Many population items were asked in the CRS using a probing sequence of questions aimed at making the census question more clear or gathering more supporting data for responses given. With these data it is then possible to measure response bias using the net difference rate. Population items reinterviewed for response bias were:

```
Place of birth
Military service
Citizenship
Race
Ancestry
Language usage
Industry and occupation-class of worker
Educational attainment
Work experience in 1989
Disability
```

The first four items were reported with low levels of inconsistency between the two sources (table 4.4). The remaining items had indexes of inconsistency in the more moderate range. One disability item on self-care limitations was highly inconsistent.

Some of the items were asked in the 1980 Content Reinterview. For each of these items the L-fold index of inconsistency between the two decades was comparable (table 4.4). The question on citizenship was also asked in the 1970 Reinterview with very similar results.

Table 4.4. L-Fold Indexes of InconsistencyResponse Bias Type Reinterviews

| Characteristic | 1990 |  | 1980 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | L-fold index of incon-sistency | 90-percent confidence interval | L-fold index of incon-sistency | 90-percent confidence interval |
| Place of birth | 4.9 | 4.6 to 5.2 | 6.0 | 6.2 to 6.8 |
| Military service | 8.5 | 7.9 to 9.2 | - | - |
| Citizenship | 10.9 | 10.0 to 12.0 | 73.0 | 70.9 to 74.9 |
|  |  |  | ${ }^{1} 13.0$ | ${ }^{1} 12.0$ to 14.8 |
| Race. | 16.3 | 15.5 to 17.1 | - | - |
| Ancestry ${ }^{2}$. | 26.5 | 25.6 to 27.4 | 26.0 | 25.4 to 26.9 |
| Language usage | 26.9 | 25.6 to 28.3 | 25.0 | 23.2 to 26.5 |
| Industry and occupation |  |  |  |  |
| Class of worker | 27.5 | 26.5 to 28.5 | - | - |
| Educational attainment. | 32.3 | 31.7 to 32.9 | 35.0 | 30.8 to 39.0 |
| Work experience in 1989 | 45.9 | 44.6 to 47.3 | - | - |
| Disability | 43.0 | 40.9 to 45.1 | - | - |
| Work disability | 45.7 | 42.4 to 49.3 | - | - |
| Mobility limitation . . . | 47.1 | 44.2 to 50.2 | - | - |
| Self-care limitation. | 73.6 | 69.5 to 78.0 | - | - |
| - Not applicable.${ }^{1}$ Edited data.${ }^{2} 20$ categories in 1980, 36 categories in 1990 |  |  |  |  |
|  |  |  |  |  |

## Place of Birth

(Census 8, Reinterview 8a, 8b, 8c)

As explained in [16], in the censuses of 1960, 1970, and 1980, place of birth was asked on the basis of the place of residence of the mother. Reinterview studies following the 1980 census revealed a strong tendency for respondents to report the actual state of occurrence of birth, even when instructed to report the mother's residence. In the 1990 census, the instruction to respond in terms of the mother's place of residence was deleted and the question simply read "In what U.S. State or foreign country was this person born?"

The data from the CRS questions which included an instruction "if born in a hospital, give location of hospital" indicate the census distribution across the 50 States and the District of Columbia, Puerto Rico, the outlying areas, Canada and Mexico are virtually identical. There is, overall, little inconsistency in the responses. The L-fold index of inconsistency is approximately 5 (table 4 and table 4.4). Thus, it appears the census responses accurately reflect the actual State or foreign country of birth. It should be noted that there was some evidence of clerical coding errors in the place of birth data in 1980. Automated coding was used in 1990. It is believed that eliminating this component of error contributed to the consistency of the data.

## Military Service

(Census 17a, 17b, 17c, Reinterview 25a, 25b, 25c, 25d, 25e, 26)

The two 1980 questions on military service were revised for the 1990 census, and one additional question was included on the questionnaire. In both censuses, the items were carried on the sample questionnaires. The data on military service and veterans were expanded by the addition of a third veteran question to the 1990 census, total number of years of active-duty military service. This item, to be used with those on veteran status and period of service, was added to bring the census system of collecting veteran data into close conformity with the Department of Veterans Affairs (VA) system and to produce statistics more closely approximating the changing program needs and populations of the VA. In addition, the VA uses census data as baseline figures in preparing its estimates of the number of veterans for intercensal years by county. ${ }^{3}$

The first of the three military service questions was on veteran status (census question 17a, appendix A). The census asked all those age 15 and over about active-duty military service in only one question. The item was separated into parts in the reinterview. These separate reinterview questions ask individually about active-duty military service, military-related civilian service for females, and service in the military reserves or the National Guard. The reinterview inquiries were recoded and matched to the

[^4]census question. The data between the census and the reinterview recode were very consistently reported (Index = 8.5, table 4). While males report these data very consistently, the same data for females are reported with moderate inconsistency (table 4).

For the whole distribution, there is substantial bias in the category "Yes, now on active duty" which is overreported in the census (table 4). Further analysis revealed that persons contributing to this situation have been in the military service and gave dates in the reinterview ranging between 1943 and 1988 for their ending date for their most recent period of service. This indicates there is some error in the census. Not surprisingly, there is a moderate amount of bias in the category "Yes, on active duty in past, but not now," as it was underreported in the census. These same people contributed to this situation (table 4). This overreporting of the "Yes, now on active duty" category has been recognized by the Census Bureau. In the edit program, additional information from the census questionnaire is used to move these respondents to their proper category. As shown in table E.9, while the unedited data had bias in the first two categories, there is no bias at all in the edited data. This indicates that the census edits correct the bias and that the edited data should be used for this item (table E.10).

The second military service question was about the period of active-duty military service. It was asked of everyone who reported active duty, either currently or in the past. In the census, a respondent could select as many specific periods in which he/ she had served. On average, each respondent selected two periods of service. In the reinterview, the respondent was asked for specific dates of active-duty military service. These dates were later recoded to the same periods as the census. Comparisons were made for each of the eight categories. These comparisons (tables D. 17 through D.24) are limited to veterans (those who reported active-duty military service in the past).

All periods of wartime service are reported very consistently (table 4). World War I service is excluded because there was insufficient data to calculate response error measures. Periods of service in peacetime are reported with moderate inconsistency between the census and the reinterview recodes. The one exception is service in the most recent period, "September 1980 or later," which was reported with low inconsistency. The final category, "Any other time," is reported very inconsistently between the two sources indicating a reporting problem with this category.

Each of the seven categories (World War I was excluded from the analysis) shows some bias in the census distribution. As shown in table 4.5, there is evidence that the census understates the "Yes" category for all service periods. This is based on the reporting of actual dates of service (month, day, and year) in the reinterview. The peacetime periods appear to be subject to relatively large reporting bias.

Table 4.5. Military Service

| Active duty was served | Percent in "yes" class |  | Net difference rate | 90-percent confidence interval |
| :---: | :---: | :---: | :---: | :---: |
|  | Census | CRS |  |  |
| September 1980 or later | 6.0 | 7.6 | *-1.6 | -2.1 to -1.0 |
| May 1975 to August 1980 | 7.1 | 10.7 | *-3.6 | -4.3 to -2.9 |
| Vietnam era | 32.1 | 34.1 | *-2.0 | -2.6 to -1.3 |
| February 1955 to July 1964 | 17.0 | 28.9 | *-11.9 | -13.2 to -10.6 |
| Korean conflict | 20.1 | 21.3 | *-1.2 | -1.8 to -0.6 |
| During World War II ....... | 35.4 | 36.1 | *-0.6 | -1.1 to -0.2 |
| Any other time . . . . . . . . . . | 1.3 | 9.9 | *-8.6 | -9.7 to -7.4 |

* Indicates significance at the 10-percent level.

The third military service question, the new item, asked respondents who have current or past active-duty military service about their total number of years of active-duty military service. This was collected with an open-ended response in the census. In the reinterview the respondent was asked for specific dates of active-duty military service. These dates were later recoded to reflect the number of years of service. The numbers in the census and the recoded years of service from the reinterview were collapsed to five meaningful categories which are shown in table D-25b, appendix D. Even collapsed to five categories, there is moderate inconsistency between the census and reinterview in reporting the number of years of service (L-fold $=34.8$, table 4). There is evidence that the two largest categories are underreported in the census while " 3 to 10 " years of service is overreported. There is no evidence of any difference between the distributions for the smallest numbers of years of service, "less than 2 " and exactly " 2 " (table 4).

Looking at the full distribution of years reported, table D25a, most of the differences were within one year. It was thought that the difference might reflect a tendency for persons to round up when answering the open-ended census question. However, a closer look at the data showed that about half of the time this was true and the other half of the time, the opposite was true.

## Citizenship

(Census 9, Reinterview 9a, 9b)
In 1980, citizenship was asked of foreign-born persons only. However, many people born in the United States erroneously answered the question, making for very inconsistent data since there were no appropriate categories for them to choose. When the data were edited and these native-born people were removed, the remaining data for foreign-born persons were reported quite accurately (table 4.4).

For 1990, the universe for the citizenship question was revised to include all persons rather than only the foreign born. As shown in table 4, these data are reported consistently. The L-fold index of inconsistency is about 11. The overall consistency of reporting is about the same by
sex and race. Hispanic origin persons report slightly more inconsistenly than non-Hispanic persons. In general, the distribution of the persons across the five categories are about the same in the census and CRS. Although the net difference rates shown in table 4 do suggest a slight overreporting of the "Yes, U.S. citizen by naturalization" category, this may be a problem with the CRS data.

## Race

(Census 4, Reinterview 5a, 5b)
The race question is asked of all persons in the census. The concept of race as used by the Census Bureau reflects self-identification by respondents; it does not denote any clear-cut scientific definition of biological stock. The data represent self-classification by people according to the race with which they identify themselves. ${ }^{4}$

The 1980 census race item underwent a number of modifications for the 1990 census. A response category for "Other API" (Asian or Pacific Islander) was added along with a space for respondents to write in their "Other API" subgroup. In addition, the spanner "Asian or Pacific Islander (API)" was placed over the API response categories. New instructions were added and others expanded, and the term "Race" was used as a label. ${ }^{5}$

Race was not evaluated in the 1970 nor the 1980 CRS. In the 1990 Reinterview, race was obtained using somewhat more detailed questions. Additional categories were added to the list of Asian or Pacific Islander groups. "Other API" and "Other race" persons could list more than one group, but, if they gave multiple responses, they were asked with which group they most closely identified. For American Indians, additional inquiries were made regarding their enrolled or principal tribal affiliation.

For initial analysis, the race data were collapsed into the six major categories shown in table 4.6. Similar data are shown in table D-6, appendix D for the 16-category race item.

As table 4.7 shows, "White" is underreported in the census (from 0.3 to 0.7 percentage points) while "Other" race is overreported (from 0.4 to 0.7 percentage points). See also table 4, item P4.

Table 4.6 shows that 349 persons reported "Other race" in the census and "White" in the CRS, while 229 persons reported "Other race" in the CRS and "White"' in the census. The '"Other race" category was collected as a write-in entry in both the census and CRS. Analysis of these write-in entries indicates that the majority of persons in these two inconsistent categories were of Hispanic origin. It is apparent that Hispanics have difficulty in classifying themselves into the race categories presented.

The data for race were analyzed for those who said they were Hispanic in the census and those who reported themselves as non-Hispanic. The non-Hispanics represent over 94 percent of the total population and the race data

[^5]Table 4.6. Census Question P4-What Is Your Race?-Unedited Data: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{array}{r} \text { Total } \\ \text { re- } \\ \text { ported } \end{array}$ | 1 | 2 | 3 | 4 | 5 | 6 |
| Total reported. | 24,539 | 20,919 | 2,375 | 118 | 454 | 81 | 592 |
| Item responses |  |  |  |  |  |  |  |
| 1. White | 21,034 | 20,564 | 30 | 43 | 12 | 36 | 349 |
| 2. Black or Negro | 2,406 | 59 | 2,306 | 2 | 2 | 3 | 34 |
| 3. Indian/ Eskimo/ Aleut. . | 116 | 37 | 5 | 69 | 0 | 0 | 54. |
| 4. Asian or Pacific Islander | 449 | 24 | 0 | 0 | 410 | 6 | 9 |
| 5. Other API | 80 | 6 | 7 | 0 | 21 | 14 | 32 |
| 6. Other race | 454 | 229 | 27 | 4 | 9 | 22 | 163 |

Table 4.7. Response Error Measures for Race

| Race categories | Net difference rate | Index of inconsistency | 90-percent confidence interval |
| :---: | :---: | :---: | :---: |
| White | *-0.5 | 13.5 | 12.8 to -14.3 |
| Black | -0.1 | 3.9 | 3.5 to 4.4 |
| Indian/ Eskimo/ Aleut | 0.0 | 41.2 | 34.9 to 48.7 |
| Asian or Pacific Islander | 0.0 | 9.4 | 7.8 to 11.2 |
| Other API ...... | 0.0 | 82.9 | 71.9 to 95.6 |
| Other race | *0.6 | 70.3 | 66.1 to 74.8 |
| L-fold |  | 15.9 | 15.1 to 16.8 |

for the non-Hispanics contained no measurable bias. Remember that the race data for all people showed significant bias in the categories "White" and "Other Race." Looking at the same race data for just Hispanics, table 4.8, there is significant bias in all categories except APl's. This suggests that the Hispanic population are contributing most of the bias in the race data in the census.

If the race item was not answered by someone in the census, the person's race was allocated. The allocated census response was compared to the response reported in the CRS. There are 371 persons for whom this comparison can be made for race. Table 4.9 shows this crossclassification.

About two-thirds of the allocated responses are consistent with the CRS responses. There does, however, seem to be a tendency to allocate "Other race" proportionately

Table 4.8. Net Difference Race for Race

| Race classification | NonHispanic | Hispanic | Total population |
| :---: | :---: | :---: | :---: |
| White | 0.1 | *-10.4 | *-0.5 |
| Black | 0.1 | *-3.5 | -0.1 |
| Indian/ Eskimo/ Aleut | 0.0 | * 0.7 | 0.0 |
| Asian or Pacific Islander. | -0.1 | -0.4 | 0.0 |
| Other API | 0.0 | * 2.4 | 0.0 |
| Other race | -0.1 | * 11.2 | 0.6 |

[^6]Table 4.9. Allocated Census Data for Race

| Reinterview classification | Census classification (allocated) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total allocated | 1 | 2 | 3 | 4 | 5 |
| Total reported ..... | 371 | 187 | 39 | 4 | 15 | 126 |
| 1. White. | 262 | 167 | 6 | 2 | 6 | 81 |
| 2. Black or Negro | 34 | 1 | 27 | 0 | 1 | 5 |
| 3. Indian/ Eskimo/ Aleut . . | 5 | 1 | 0 | 2 | 0 | 2 |
| 4. Asian or Pacific Islander | 9 | 1 | 0 | 0 | 5 | 3 |
| 5. Other | 61 | 17 | 6 | 0 | 3 | 35 |

more in the census than is consistent with the CRS responses; that is, 126 cases in the census versus 61 in the CRS.

## Ancestry

(Census 13, Reinterview 14a, 14b, 15a, 15b, 16, 17)

As stated in [15], this item, asked of a sample of persons, is based on self-identification and is open-ended (respondents write in their answers). Ancestry refers to a person's ethnic origin or descent, "roots," or heritage. Ancestry also may refer to the country of birth of the person or the person's parents or ancestors before their arrival in the United States. Persons can report their ancestry regardless of the number of generations removed from their ancestors' places of origin. Furthermore, responses to the ancestry question reflect the ethnic group(s) with which persons identify and not necessarily the degree of attachment persons have with the particular group(s).

According to the instruction guide accompanying the census questionnaire, persons who have more than one origin and cannot identify with a single ancestry group may report two ancestry groups (for example, German-Irish). Instructions also specify that a religious group should not be reported as a person's ancestry. Ancestry (ethnicity)
and race are viewed as separate concepts by the Census Bureau; therefore, persons reporting a particular ancestry may be of any race. ${ }^{6}$

These data are difficult to analyze because both the census and the CRS allowed multiple responses. For initial analysis, the data for all respondents who provided a single ancestry in the census and a single ancestry in the reinterview were compared. Their responses were collapsed to the 36 categories usually used in census publications and are shown in table D-10, appendix D.These data for single responses are reported with moderate inconsistency (L-fold index = 26.5). Native born persons also report with moderate inconsistency (L-fold index = 29.0). Foreign born people, however, report very consistently in this situation (L-fold index $=7.5$, table 4).

Data are shown in tables D-11 and D-12 for the first ancestry reported in both the census and the reinterview. Table D-11 shows the 36 categories usually used in census publications while table D-12 is collapsed to the 34 largest ancestry groups reported in the census.

Table 4.10 examines additional data on the consistency with which persons report ancestry in the census and CRS for both single and multiple responses. The consistency of reporting is shown for those persons reporting a single ancestry both times, those reporting two in the census and one in the CRS and vice- versa, and those reporting multiple ancestries in the census and CRS. Data is shown first for total persons, then separately for the native born and the foreign born. Overall, at least one census response matches one CRS response for 75 percent of all persons. The corresponding figure for foreign born persons (79 percent) is slightly higher than that for native born persons ( 75 perent). The difference between native and foreign born persons is somewhat larger when ony a single response is given ( 67 versus 79 percent).
${ }^{6}[15]$

Table 4.10. Persons Reporting Ancestry

| CRS response | Census response | Total persons |  | Native born |  | Foreign born |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Number matched | Percent matched | Number matched | Percent matched | Number matched | Percent matched |
| Single | Single | 7,515 | ${ }^{2} 68$ | 6,667 | ${ }^{2} 67$ | 848 | ${ }^{2} 79$ |
| Single | Two | 1,277 | ${ }^{3} 65$ | 1,265 | ${ }^{3} 65$ | 12 | ${ }^{3} 83$ |
| Multiple ${ }^{1}$ | Single | 2,453 | ${ }^{4} 64$ | 2,380 | ${ }^{4} 64$ | 73 | ${ }^{4} 77$ |
| Multiple ${ }^{1}$ | Two | 3,952 | ${ }^{5} 94$ | 3,934 | ${ }^{5} 94$ | 18 | ${ }^{5} 100$ |
|  |  | 3,952 | ${ }^{6} 55$ | 3,934 | ${ }^{6} 55$ | 18 | ${ }^{6} 78$ |
| Total |  | 15,197 | ${ }^{7} 75$ | 14,246 | ${ }^{7} 75$ | 951 | ${ }^{7} 79$ |

[^7]
## Language Usage

(Census 15a, 15b, 15c, Reinterview 18, 19, 20, 21 , 22, 23, 24)

As explained in [16], data from the language question are used to identify areas with large numbers of persons with limited English-speaking ability as well as concentrations of speakers of a particular non-English language. A three part question, similar to that used in the 1980 census, was asked in the 1990 census.

Analysis of the CRS data indicate that for the first part of the question, "Does this person speak a language other than English at home?', the census data are only moderately inconsistent. Table 4.11 shows that, for all persons, the L-fold index of inconsistency is about 27. This level is comparable to that observed in the 1980 CRS. Analysis of the consistency of responses to this part of the question by origin, shows that persons reported as Hispanic origin in the census were somewhat more consistent in their reporting than non-Hispanics, (27.9 versus 39.2).

Among persons categorized as "No" in the census and "Yes"' in the CRS to this part of the question, the CRS data indicate that virtually all these persons reported that they learned to speak the language reported in the CRS either at home or in school and that they now speak the language at home. However, virtually all of these persons also said in the CRS that they spoke this language at home "Less often than English" or "Almost never speak" the language.

Conversely, among persons categorized as "Yes" in the census and "No" in the CRS, the CRS data indicate that almost half of the persons older than 15 indicated that a language other than English was spoken in their home as a child, even though they reported that they themselves did not speak the language. The reason they were in the "Yes" category in the census is unknown.

These patterns of response (no/ yes, yes/ no) occurred about equally in the census/ CRS comparison and illustrate that the responses to this question are apparently subject to various interpretations by respondents.

Answers to the question "What is this language?" (for those who responded "Yes" to the first part of the question in the census and CRS) is very consistently reported (L-fold index $=5.2$ ). Almost half the respondents indicated the language spoken was Spanish (table D-15).

The CRS data for the last part of the question, "How well does this person speak English?'", (also asked of those who responded "Yes" to the first part of the

Table 4.11. Indexes of Inconsistency: Speak a Language Other Than English at Home?

| Speak a language other than English at home (yes or no) | Index of inconsistency | 90-percent confidence interval |
| :---: | :---: | :---: |
| Total persons | 26.9 | 25.6 to 28.3 |
| Hispanic origin | 27.9 | 24.5 to 31.7 |
| Non-Hispanic origin | 39.2 | 37.1 to 41.4 |

question), indicate a high level of inconsistency in responses (L-fold index = 60.3) and a tendency to overreport the "Very well" and "Well" categories in the census as compared to the CRS (table 4). This tendency is present for both Hispanics and non-Hispanics.

The CRS provides some additional data on the inconsistent response patterns for this part of the question. Of particular interest are the persons who were categorized as "Very well" or "Well'" in the census versus "Not well"' or "Not at all" in the CRS. A very high proportion of these persons (83 percent) indicated in the CRS that they spoke the (other) language at home "All the time" or "More often than English." These data indicate that this part of the question is apparently subject to varying interpretations by respondents who report for themselves as well as for others in the household in the census.

## Industry and Occupation-Class of Worker

(Census 30, Reinterview 35b, 35c, 35d)
Each person in the census who had worked anytime since 1985 was asked to describe their most recent job activity and to select their class of work. There was a slight change in this question from the 1980 version. The category "Employee of private company, business, or individual, for wages, salary, or commissions" was split into two categories in 1990: one for employees of private-for-profit employers and the other for employees of private not-forprofit employers.

Initially, census responses were compared to the reinterview responses for this item. The data were reported with moderate inconsistency. Three of the eight categories showed some difference in the percent in class (table 4). There was a small difference in the first category, "Employee of PRIVATE-FOR-PROFIT company or business or of an individual, for wages, salary, or commissions," which was overreported in the census. This was one of the new categories. Two other categories, "State government employees" and "SELF-EMPLOYED in own NOT INCORPORATED business, professional practice, or farm," were underreported in the census.

The class of worker responses given in the reinterview were recoded using additional information. The kind of business or industry (reinterview 35b, appendix A) and the employment sector (reinterview 35c, appendix A) were used in producing the recoded class of worker. This was compared to the census response, table D-30. Again, there was moderate inconsistency between the two data sources. However, there was a change in the bias pattern using the recoded data (table 4). There was still evidence of overreporting in the category "Employee of a PRIVATE-FOR-PROFIT company or business or of an individual, for wages, salary, or commissions" and underreporting in the "SELF-EMPLOYED in own NOT INCORPORATED business, professional practice, or farm." The difference comes in the category "State GOVERNMENT employee" which was highly underreported in the census but now shows no
bias after the recode. However, the category "Local GOVERNMENT employee" (city, county, etc.) shows evidence of being underreported in the census after the recodes are applied.

## Educational Attainment

(Census 12, Reinterview 10, 11, 12, 13a, 13b, 13c)
The educational attainment question used in the 1990 census was quite different from that used in the 1980 census. The 1980 census version of the question consisted of two items: what was the highest grade the respondent had attended, and did the respondent complete the highest grade attended? For the 1990 census, major changes were made to the question to measure educational attainment. As explained in [17], first, one question was asked rather than two. Second, the question asked how much school the respondent had completed. Third, response choices were provided for degrees received, in addition to grades completed. Fourth, grade categories were collapsed at the elementary level. Response choices were provided for grades $1-4$ and $5-8$. Fifth, the response choice "Never attended school" was changed to "No school completed" and was placed at the beginning of the continuum, rather than at the end. The CRS included questions on highest grade attended, whether or not the highest grade attended was finished and a question on how much school was completed (including degree received).

The response error measures for the 17 response categories of the educational attainment question are provided in table 4. While the educational attainment data are collected using 17 categories, only 7 categories are used in many census publications and they are shown for persons 18 or years older in many cases. Table 4.12 provides the net difference rates for the seven publication level categories for the age group 18 years or older.

These data indicate that for the publication level categories, the census and CRS distributions are different to some extent. In particular, the "Elementary, 0-8 years," and "Associate degree" categories have relatively large net difference rates. Smaller, but significant, net difference rates are present for the all other categories but "Graduate degree."

Table 4.12. Net Difference Rates for Educational
Attainment for Persons 18 and Over Attainment for Persons 18 and Over

| Educational attainment | Percent in Class |  | Net difference rate | 90-percent confidence interval |
| :---: | :---: | :---: | :---: | :---: |
|  | Census | CRS |  |  |
| Elementary, 0 to 8 years | 6.1 | 6.6 | *-0.5 | -0.7 to -0.2 |
| High school, 1 to 4 years, no diploma | 13.7 | 13.2 | * 0.4 | 0.1 to 0.8 |
| High school diploma | 33.4 | 34.8 | *-1.4 | -1.8 to -0.9 |
| Some college, no degree | 20.5 | 19.9 | * 0.7 | 0.3 to 1.1 |
| Associate degree | 5.7 | 4.3 | * 1.3 | 1.1 to 1.6 |
| Bachelor degree | 13.6 | 14.1 | *-0.5 | -0.7 to -0.2 |
| Graduate degree | 7.0 | 7.1 | -0.2 | -0.3 to 0.0 |

[^8]Given the differences in the census and CRS questions and in particular the fact that the CRS interviews were conducted some months after census enumeration, it is reasonable to expect some response differences due to these factors. For example, persons enrolled in high school in April may have felt they completed the 12th grade and did not yet have a diploma, but by the time of the CRS interview, they had a diploma and reported it as such (even though the CRS questions use "As of April 1, 1990," as a reference period). Such factors could explain much of the Census/ CRS difference in this category. In addition, it was necessary to recode the CRS responses to the corresponding census categories since the same questions were not used in census and CRS. Some differences may have been introduced due to the recoding procedure.

Other differences, such as the large proportion of associate degree holders in census who reported "Some college, no degree" in the CRS, may be due to the respondent's inability to correctly categorize degree training below the bachelor's level.

## Work Experience in 1989

Worked in 1989 (Census 31a, Reinterview 36, 37) Weeks worked in 1989 (Census 31b, Reinterview 38a)
Usual hours worked per week in 1989 (Census 31c, Reinterview 38b)

As noted in [11], these three items together constitute the battery of questions on work experience. The worked last year question screens persons who had worked during the previous year to answer the weeks worked and usual hours worked questions.

The census asked if the respondent worked in 1989, eliciting a simple "Yes" or "No" response. The reinterview asked generally this same question and the responses, compared to the census, were moderately inconsistent (L-fold = 45.9, table 4). In addition to asking about working in 1989, the reinterview probed as to whether the respondent had done any temporary, part-time, or seasonal work even for a few days during 1989. The reinterview responses were recoded taking the additional information into account, and compared to the census responses. There was a moderate amount of inconsistency between the two. More interesting is the bias that is shown to be present in the census when the data are compared to the reinterview recode which had a probe for temporary, part-time or seasonal work (tables E-7 and E-8 in appendix E). There is evidence that in the census the "Yes" category is underreported. In other words, the census understates the number of people who worked in 1989 (table 4). This same bias exists by sex and by race.

The item on weeks worked last year and the one on usual hours worked serve, among other uses, as qualifiers for the data from income and earnings questions. Since all income-related information in the census refers to the calendar year before the census is taken, the information
on weeks worked and usual hours worked per week in the previous year is necessary to estimate weekly and hourly earnings and to take into account differences in weeks and hours worked when analyzing income and earnings data for various subgroups of the population, such as by race or sex. These items also are used to assign or allocate responses to missing income and earnings questions. ${ }^{7}$

The number of weeks worked in 1989 is very inconsistently reported between the census and the reinterview (L-fold $=56.8$ ), indicating repondents experience difficulty answering this item (table 4). The distribution of weeks worked is significantly different between the census and CRS for all categories. A possible explanation could be in the way vacation and sick leave are reported. The census includes a footnote on the question saying to include vacation, paid sick leave, and military service. Perhaps respondents missed this note. In the reinterview, the reference to including all this leave is read to the respondent as part of the question.

The usual number of hours worked was reported as a write-in number in both the census and the reinterview. For analysis purposes, the data were grouped into categories. Using three categories: " 1 to 14 hours," " 15 to 34 hours," and " 35 hours or more," there was moderate inconsistency in reporting between the census and the reinterview. The percent of respondents in these categories between the two sources was the same (table 4). Collapsing to just two categories: " 1 to 34 hours," and " 35 hours or more," it is not surprising that the data are a little more consistent, although they are still in the moderately inconsistent range (also table 4).

## Work Disability

(Census 18a, 18b, Reinterview 33a, 33b).

The 1990 census questions on disability covered three areas: work disability, mobility limitation, and self-care limitation. Persons 15 years or older are identified as having a work disability if they have a health condition that has lasted 6 months or more that limits or prevents them from working at a job. For the reinterview, the question was asked of persons ages 15 to 65 . Table 4 provides the response error measures for the first part of this question (18a) asking whether the condition limits the amount or kind of work this person can do at a job. The index of inconsistency for this question is in the moderate range ( $\mathrm{l}=43$ ). There is evidence of a fairly large difference in the Yes/ No distribution between the census and CRS, 8.3 percent versus 10.3 percent in the "Yes" category, respectively. These results are similar for both males and females.

In the census persons were also asked if they have a condition which prevents them from working at a job regardless of their response to the first part of the question. Table 4.13 provides data on the responses to both parts of this question in the census and CRS. These data

## ${ }^{7}[11]$

Table 4.13. Distribution of Responses to Census Questions 18a and 18b and CRS Questions 33a and 33b on Disability

|  |  |  | imits |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | N | o |  |  |
|  |  |  | event | 18b) |  |  |  |
|  |  | Yes | No | Yes | No | Total | cent |
| Limits ${ }^{1}$ (33a) | Prevents (33b) |  |  |  |  |  |  |
|  | Yes | 535 | 85 | 11 | 209 | 840 | 5.6 |
| Yes | No | 65 | 175 | 0 | 461 | 701 | 4.6 |
| No |  | 177 | 215 | 12 | 13,174 | 13,578 | 89.8 |
|  | Total | 777 | 475 | 23 | 13,844 | 15,119 | 100.0 |
|  | Percent | 5.1 | 3.1 | 0.2 | 91.6 | 100.0 |  |

[^9]indicate that for the universe of persons who reported they had a limiting condition, in both the census and CRS their responses to the "prevents" part of the question were still moderately inconsistent. The index of inconsistency for this universe is about 41. The percent in class figures for this universe are 72.1 percent and 69.8 percent for the census and CRS, respectively. There is no evidence of a statistically significant difference in these figures.

There remain about 7 percent of the persons that are inconsistent based on the responses to both parts of this question (18a = No, 18b = No and $33 \mathrm{~b}=$ Yes or No, or $18 a=$ Yes and $33 a=$ No). This level of inconsistency has been observed in other evaluations of these questions, particularly in specially designed content tests conducted prior to the 1980 and 1990 censuses to develop the disability questions.

## Mobility Limitations

(Census 19a, Reinterview 34a)
This question also suffers from a moderately high level of inconsistency ( $\mathrm{l}=47.1$ ), but there is no evidence that the census and CRS distributions differ. The level of inconsistency is about the same by sex and age (15-65 and 66 or more). There is no evidence of differences in the census and CRS distributions for these groups as well.

Table 4.14 examines additional data collected in the CRS for the persons whose census/ CRS responses to the mobility limitation question were inconsistent. The data in this table come from the CRS question concerning the need for an aid to help get around and the duration of use of such an aid.

The patterns of reporting to this question are remarkedly similar for both inconsistent response patterns to the mobility limitation question, ( $\mathrm{No} / \mathrm{Yes} \mathrm{)} \mathrm{and} \mathrm{Yes/No} \mathrm{)}$. data seem to illustrate the rather subjective nature of responses to this question both among persons that require aids to get around, and those who do not.

Table 4.14. Additional CRS Data for Mobility Limitation Question: Inconsistent Response Patterns

| Census/ CRS response to mobility limitation question | Number of persons | CRS question ${ }^{1}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 29 A(needs aid) |  | 29B <br> (duration, 6 months or more) |  |
|  |  | Yes | No | Yes | No |
| Census (19A) = No |  |  |  |  |  |
| CRS (34A) = Yes ... | 336 | 85 | 251 | 72 | 13 |
| Census (19A) = Yes |  |  |  |  |  |
| CRS (34A) $=$ No... | 334 | 71 | 262 | 61 | 10 |

${ }^{1}$ See appendix A for the CRS questions.
The first time the census included questions on mobility limitations and self-care limitations was in 1990.

## Self Care Limitation

(Census 19b, Reinterview 34b)
The level of inconsistency in this question is quite high ( $\mathrm{I}=73.6$ ) and there is an indication of a substantial difference between the census and CRS distributions. The percent in class in the census is about twice that in the CRS (4.2 percent versus 2.1 percent) for positive responses. These same results are also found by sex and age. The difference for persons of age 66 or more, 19.2 percent versus 5.1 percent, is particularly troublesome as one might expect more consistent reporting for this group. It is difficult to explain the larger proportion of persons who reported a self-care limitation in the census. As noted by McNeil (1993), the 1990 question on mobility and self-care limitations are subject to the criticism that while they ask whether a condition makes an activity difficult, there is no mention of environmental factors that may also affect the response to these questions. Perhaps such factors are responsible for the difference.

# CHAPTER 5. Survey Design and Operations 

## SAMPLE SELECTION

The CRS is designed to measure response error associated with selected population and housing items. The objective is to measure census data quality using simple response variance and response bias associated with data items which are reinterviewed.

A single stage systematic sampling scheme was used for the CRS. To obtain a final sample of 12,800 occupied units, an initial sample of 15,500 housing units was selected from the census address file. This number of households is comparable to the designated sample sizes of the 1970 CRS and the 1980 CRS. The CRS sample was restricted to sample (long form) census households. Census households responding by mail and enumerator return households were reinterviewed.

When the CRS sample was selected from the Census Address Control File (ACF), enumeration had not yet taken place, so occupancy status of the units was not known. Units enumerated as vacant in the census were later excluded from the CRS. Also, housing units deleted from the ACF during enumeration were eliminated from the CRS sample. Original sample selection from the ACF yielded 15,417 housing units. 12,891 reinterview sample cases were sent to the field after elimination of vacants and deletes (nonexistent units, nonresidential units, and so forth).

## FIELD OPERATIONS AND CLERICAL PROCESSING

All initial reinterviews were conducted using Computer Assisted Telephone Interviewing (CATI) from September through December 1990. The results of the CRS are used as the standard by which the quality of census responses are measured; therefore, it is essential that the reinterview results are of the highest quality. Increased data quality is associated with the CATI system due to a reduction in interviewer bias. In the CATI interview, the computer controls skip patterns and the supervisor can monitor both the audio portion of the interview on the telephone and the video portion on a screen. Only experienced CATI interviewers were used to conduct the reinterviews.

For the 1990 CRS, introductory letters were mailed to the sample housing units prior to the start of the telephone interviews. Households were contacted by CATI until complete information for each person and the housing unit was obtained (or a specified number of failures to reach the sample unit occurred).

Characteristics of each person age 15 and over were obtained by self-response, when possible. A proxy respondent was defined as any adult household member who was knowledgeable of the sampled person's characteristics. A proxy respondent could be used to obtain population data in the following situations:

1. Three call contacts failed to obtain self-response for an individual.
2. The sample person was mentally or physically incapable of responding.
3. The sample person was temporarily absent, hospitalized, in a nursing home, or institutionalized for the entire interview period.
4. The person was under 15 years of age.

Overall, 75 percent of the persons in the survey reporting data were reported by self-response. The remaining 25 percent of the data collected was obtained from proxy respondents. Nineteen percent of the population were under 15 years of age and required a proxy respondent. The other proxy respondents, 6 percent of the reporting population, were reporting for persons who could not be reached for self-response during the time period of the survey.

There were differences between the two modes of data collection, CATI and personal visit (PV), for self versus proxy response. CATI had a higher self-response rate, 76.7 percent versus 64.7 percent self-response for personal visit. See table 5-1.

Population data were not collected for any person who no longer lived at the sample unit (including college students, divorced spouses, and children who no longer resided at the sample address). For the housing data, the respondents included the householder, his or her spouse, or any adult household member in whose name the home was owned, being bought, or rented.

Table 5.1. Response Rates for Self-Response Versus Proxy

|  | CATI | PV | Total |
| :---: | :---: | :---: | :---: |
| Self | $\begin{array}{r} 16,829 \\ (76.7) \end{array}$ | $\begin{aligned} & 2,666 \\ & (64.7) \end{aligned}$ | $\begin{array}{r} 19,495 \\ (74.8) \end{array}$ |
| Proxy | $\begin{aligned} & 5,105 \\ & (23.3) \end{aligned}$ | $\begin{aligned} & 1,454 \\ & (35.3) \end{aligned}$ | $\begin{aligned} & 6,559 \\ & (25.2) \end{aligned}$ |
| Total . | $\begin{aligned} & 21,934 \\ & (100.0) \end{aligned}$ | $\begin{array}{r} 4,120 \\ (100.0) \end{array}$ | $\begin{aligned} & 26,054 \\ & (100.0) \end{aligned}$ |

For purposes of the CATI interview, the term "contact" designated a call which resulted in an actual contact with at least one of the adult persons listed on the census roster for the sampled housing unit. The following guidelines were issued for CRS:

1. After four "no-contact dialings" at various time periods to the sampled household, Directory Assistance was called to verify the original number or obtain a new number.
2. If Directory Assistance provided a new number, the new number was called seven times until a contact was made. After seven no-contact calls, the case was sent for personal visit followup.
3. If Directory Assistance did not provide a new number for any of the persons on the roster, CATI continued calling the original number three additional times (for a total of seven calls). After the seventh no-contact, the case was sent to field for personal visit followup.

Experienced current survey interviewers from the census regional offices were used to conduct the personal visit reinterviews. The census household roster and telephone number were obtained to aid the CATI interviewers and the field staff conducting personal visit interviews. This census household roster included the census person number which was extremely valuable in linking the census and reinterview data for identical persons. The reinterviews were conducted independently of the census enumeration. That is, the reinterviewer did not know how the sample household had answered the various questions on the census questionnaire, even though the reinterviewer
had the sample household roster. When there were differences between the two sources, census and reinterview, no reconciliation was done.

Movers were not followed up for the reinterview. Most whole household movers were verified by personal visit. No reinterview data were collected for individual movers (persons) within a sample household.

The average reinterview took about 23 minutes per household to conduct. The minimum interview was estimated to be 13 minutes and the maximum, 42 minutes.

The CATI system edits data for completeness as the interview is being conducted. Open-ended responses were coded clerically, keyed, and merged into the CATI file. Personal visit questionnaires were edited and reviewed for completeness by supervisors in the Census Regional Offices. At the conclusion of the interviewing period, all of the personal visit questionnaires were sent to the Decennial Processing Office (DPO) in Jacksonville, Florida. Openended questions were coded directly on the questionnaire. Personal visit forms were then sent to the DPO in Jeffersonville, Indiana, where they were keyed. Quality assurance procedures were integral parts of all operations.

## COMPUTER PROCESSING

The CATI file and the keyed personal visit data were combined into one file of CRS data. This was matched with the unedited census file. All of the 12,891 sample housing units were matched. However, 19 of these housing units were eliminated from the CRS sample because 18 of them had been converted to vacants in the census and 1 was deleted during census processing. Therefore, the total sample size on which the housing information in this report is based is 12,872 .

## CHAPTER 6. Data Limitations

The summary measures of response error presented in this report are subject to a number of limitations.

## SAMPLING VARIABILITY

The data presented here are shown as numbers of sample housing units and sample persons, not as inflated national estimates. The sample was selected using equal probability methods so that each sample housing unit had the same weight. The measures used in this report are subject to sampling variability since they are based on sample data. A 90-percent confidence interval accompanies the measures of response error computed from these data.

## SOURCE OF RESPONSE ERROR

This report concentrates on comparisons with census data before consistency edits and imputations for missing data were made as part of the computer processing operations. Thus, the response error measures reflect mainly errors which occurred during the field data-collection process. Edited census data, reflecting computer edits and imputations, are available and were analyzed. There was very little difference between the net difference rates and the indexes of inconsistency for the unedited or edited census data. This indicates that at high levels of geography, there was not much additional error which occurred due to the edit and allocation procedures.

## NONINTERVIEWS

Initially, an oversample was drawn so that housing units vacant in the census could be eliminated from the sample. A sample of 12,891 housing units was sent to be interviewed. Of the interviews returned, 83.1 percent were completed. The refusal rate was 4.5 percent. In addition, 7.2 percent of the housing units had moved since the census and 1.0 percent were vacant at the time of the reinterview. In the "Other" category, 4.1 percent represented housing units which had language barriers, household members who were ill, hospitalized or temporarily absent, deceased and so forth.

Table 6-1 shows this information for the whole sample and separately for those housing units interviewed by CATI and those whose interviews were conducted by personal visit. As might be expected, many of the rates differ by source. All cases were sent to CATI first and only went to

Table 6.1. Results of Data Collection Operations for Sample Housing Units

| Result-Housing Units | Number of housing units |  | Percent |
| :---: | :---: | :---: | :---: |
| Total. | ${ }^{1} 12,872$ | 100.0 |  |
| Interviews | 10,698 | 83.1 |  |
| Complete | 10,224 |  | 79.4 |
| Partial. | 474 |  | 3.7 |
| Refusals | 576 | 4.5 |  |
| Movers. | 922 | 7.2 |  |
| Vacants | 123 | 1.0 |  |
| Other noninterviews ${ }^{2}$ | 553 | 4.1 |  |
| CATI-Total | 9,791 | 100.0 |  |
| Interviews | 8,857 | 90.4 |  |
| Complete | 8,439 |  | 86.2 |
| Partial. | 418 |  | 4.2 |
| Refusals | 483 | 5.0 |  |
| Movers. | 142 | 1.5 |  |
| Vacants | 0 | 0.0 |  |
| Other noninterviews ${ }^{2}$ | 309 | 3.1 |  |
| Personal visit-total | 3,081 | 100.0 |  |
| Interviews | 1,841 | 59.8 |  |
| Complete. | 1,785 |  | 58.0 |
| Partial. | 56 |  | 1.8 |
| Refusals | 93 | 3.0 |  |
| Movers. | 780 | 25.3 |  |
| Vacants | 123 | 4.0 |  |
| Other noninterviews ${ }^{2}$ | 244 | 7.9 |  |

${ }^{1} 12,891$ were sent to the field, but 19 sample units were eliminated because they were deleted from the census.
${ }^{2}$ Housing units which had language barriers, household members who were ill, hospitalized or temporarily absent, deceased, and so forth.
personal visit if the household could not be reached by telephone or if the CATI respondent requested a PV interview. Most whole household movers had to be field verified as did the vacants. Movers were not followed for this survey.

Approximately 91 percent of the persons in the CATI assigned housing units were interviewed. Another 1.5 percent of the persons refused their individual interview, 3.7 percent did not complete their interview, and 4.1 percent of the individual people in the household had moved, even though their household was still living there. See table 6-2.

## MATCHING

In the past, matching CRS households and persons back to the census has been a problem which has sometimes caused data limitations. Efforts were made in

Table 6.2. Results of CATI Operations for Sample Persons ${ }^{1}$

|  | Number of persons | Percent |
| :---: | :---: | :---: |
| CATI-Sample persons | 22,788 | 100.0 |
| Complete interview. | 20,649 | 90.6 |
| Incomplete interview | 849 | 3.7 |
| Refused interview . | 336 | 1.5 |
| Movers | 944 | 4.1 |
| Other | 10 | 0.0 |

1Only available for sample persons whose data were collected by
CATI. CATI.
planning this evaluation to keep matching problems to a minimum. The housing unit sample was selected from the ACF (Address Control File) making it possible to track a housing unit through the census process. Then, names of the census occupants of the sample units and their corresponding person numbers on the household roster were keyed and maintained on both CATI and personal visit questionnaires. Using this information, all housing units were matched back to the census. Because of the method of sample selection, erroneous and questionable matches are not a problem for this survey.

There were a small number of matching problems with the person data. They are detailed in table 6-3. About 3,000 persons on the input file were not included on the CRS file, in small part due to a problem with the CATI system. These are the only cases in which actual data were lost. The major part of the nonmatches were persons for whom no data were collected in the CRS. They include household refusals, whole household movers, households where the occupants were absent, ill, or hospitalized for the duration of the survey. Also included were some housing units which CATI should have transferred to personal visit for interviewing but did not, and some cases which had invalid input and could not be processed for interview.

A small number of deletions had to be made to the CRS person file related to housing units deleted from the sample because they were converted to vacants in the census. Also, a duplicate person and several housing units that had keying errors were deleted.

When this CRS person file was matched to the census file, there were 60 people who did not match. These were mainly cases where the person was erroneously included on the input file. The name was available on the census questionnaire, but the person was not data defined (not sufficient data to be counted as a person). Therefore, there was no census information to which the CRS data could be matched.

## TIMING

The CRS was conducted immediately following the completion of the decennial census field work. This was more than 5 months after the first census data were

## Table 6.3. Person Matches

| Number of persons on input file given to field for interviewing | 32,839 |  |
| :---: | :---: | :---: |
| Number of persons on original CRS file | 29,749 |  |
| Difference. |  | 3,090 |
| CATI error on "next person" number-data not retrievable. |  | 459 |
| No person data due to refusals, whole household movers, household absent, ill, or hospitalized, some housing units which CATI should have transferred to PV, and invalid input |  | 2,631 |
| Number of persons on original CRS file | 29,749 |  |
| Deleted-census housing unit converted to vacant ( 18 HU 's). | - 31 |  |
| Keying errors on household ID | - 10 |  |
| Duplicate person number | - 1 |  |
| CRS file | 29,707 |  |
| Did not match to census ${ }^{1}$. | - 60 |  |
| Matched person file . | 29,647 |  |

${ }^{1}$ These are mainly cases where the person should not have been included on the input file; the person name was on the census questionnaire, but not enough data were provided to actually define a "person." Consequently, there was no census information to which a CRS match could be made.
collected and as much as 9 months before the final CRS data were collected. Timing of a reinterview survey is important because going to the field too soon after the original data collection can increase the effects of conditioning. There is also a potential loss of accuracy in the data collected if too much time passes. The magnitude of the effect of the time lag cannot be determined. It exists in varying degrees for many of the items included in the survey. There was also some data loss because some respondents had moved before the reinterview was conducted.

## CONVERSION HOUSEHOLDS

The census problem of conversion households also affects the CRS sample. A conversion household is a housing unit which was sent a census long form, but the household returned the questionnaire with mainly shortform information. These housing units were on the unedited census file as long forms and, therefore, matched to sampled CRS cases. However, for the missing items, data comparisons could not be made, thus increasing the "not reported" category for many items. When the census file was edited, these long-form households were "converted" to short-form census households and the long-form data were weighted to account for this loss. In the CRS sample, there were 925 conversion households containing 2,023 persons. Of these people, 1,677 had CRS data although they had no census data. Their loss has an immeasurable effect on the survey results.

## TABLES. Summary Measures of Response Error

Table 1. Summary Measures of Response Error for Housing Characteristics Estimated From Response
Variance Type Reinterview: 1990 Census Variance Type Reinterview: 1990 Census

| Census questions and categories | Sample size | Percent in class |  | Net difference rate |  | Index of inconsistency |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Census | CRS | Estimate | 90-percent confidence interval | Estimate | 90-percent confidence interval |
| H2: Which Best Describes This Building? | 10,418 | - | - | - |  | - |  |
| A mobile home or trailer. | - | 6.6 | 6.7 | -0.1 | -0.2 to 0.1 | 7.9 | 6.7 to 9.3 |
| A 1-family house detached from any other house | - | 68.3 | 69.0 | *-0.7 | -1.0 to -0.4 | 9.4 | 8.7 to 10.2 |
| A 1-family house attached to 1 or more houses | - | 4.4 | 5.3 | *-0.9 | -1.1 to -0.6 | 33.8 | 30.8 to 37.0 |
| A building with 2 apartments | - | 3.8 | 2.5 | * 1.3 | 1.0 to 1.5 | 40.4 | 36.5 to 44.8 |
| A building with 3 or 4 apartments. |  | 3.7 | 3.6 | 0.1 | -0.1 to 0.4 | 31.2 | 28.0 to 34.8 |
| A building with 5 to 9 apartments.. |  | 3.8 | 3.5 | 0.2 | 0.0 to 0.5 | 39.5 | 35.9 to 43.5 |
| A building with 10 to 19 apartments........ | - | 2.9 | 2.6 | 0.2 | 0.0 to 0.5 | 41.2 | 36.9 to 45.9 |
| A building with 20 to 49 apartments ....... | - | 2.3 | 2.4 | -0.1 | -0.3 to 0.1 | 35.4 | 31.2 to 40.2 |
| A building with 50 or more apartments ..... | - | 3.5 | 3.2 | 0.2 | 0.0 to 0.4 | 24.2 | 21.3 to 27.5 |
| Other. | - | 0.8 | 1.2 | *-0.4 | -0.6 to -0.2 | 84.5 | 74.6 to 95.7 |
| L-fold: |  |  |  |  |  |  |  |
| Total units | 10,418 | - | - | - | - | 21.9 | 21.0 to 23.0 |
| Black householder | 944 | - | - | - | - | 29.2 | 26.3 to 32.6 |
| Non-Black householder. | 9,343 | - | - | - |  | 21.0 | 20.0 to 22.1 |
| Spanish/ Hispanic householder | 539 | - | - | - |  | 33.2 | 29.3 to 37.9 |
| Non-Spanish/ Hispanic householder. . . . . . | 9,460 | - | - | - | - | 21.2 | 20.2 to 22.3 |
| Non-Black and non-Spanish/ Hispanic householder | 8,536 | - | - | - | - | 20.1 | 19.0 to 21.3 |
| H19A: Is This House on Less Than 1 Acre? $\qquad$ | 7,815 |  |  |  |  |  |  |
| Yes | - | 75.3 | 76.0 | *-0.8 | -1.4 to -0.2 | 27.8 | 26.4 to 29.4 |
| No | - | 24.7 | 24.0 | * 0.8 | 0.2 to 1.4 | 27.8 | 26.4 to 29.4 |
| L-fold: |  |  |  |  |  |  |  |
| Total units | 7,815 | - | - | - | - | 27.8 | 26.4 to 29.4 |
| Black householder ${ }^{1}$ | 548 | 79.2 | 85.9 | *-6.8 | -9.9 to -3.6 | 67.3 | 58.6 to 77.8 |
| Non-Black householder ${ }^{1}$ | 7,207 | 74.9 | 75.2 | -0.2 | -0.8 to 0.3 | 25.4 | 23.9 to 27.1 |
| Spanish/ Hispanic householder ${ }^{1}$ | 297 | 86.5 | 90.2 | *-3.7 | -7.2 to -0.2 | 63.7 | 50.3 to 81.6 |
| Non-Spanish/ Hispanic householder ${ }^{1}$. | 7,246 | 74.7 | 75.3 | -0.6 | -1.2 to 0.1 | 27.2 | 25.7 to 28.8 |
| Non-Black and non-Spanish/ Hispanic householder ${ }^{1}$ | 6,704 | 74.3 | 74.4 | 0.0 | -0.7 to 0.6 | 24.8 | 23.3 to 26.5 |
| H19B: In 1989, What Were the Actual Sales of All Agricultural Products From This Property? | 1,472 | - | - | - |  |  |  |
| None | - | 87.9 | 89.1 | *-1.2 | -2.3 to -0.1 | 30.7 | 25.9 to 36.5 |
| \$1 to \$999 | - | 3.3 | 2.4 | 0.9 | 0.0 to 1.8 | 75.6 | 61.2 to 93.3 |
| \$1,000 to \$2,499 | - | 1.8 | 1.5 | 0.3 | -0.2 to 0.9 | 56.0 | 40.9 to 76.8 |
| \$2,500 to \$4,999 | - | 1.3 | 1.2 | ... | $\ldots$... ... | ... | ... ... |
| \$5,000 to \$9,999 | - | 1.6 | 1.4 | 0.2 | -0.3 to 0.7 | 54.3 | 38.6 to 76.4 |
| \$10,000 or more. | - | 4.1 | 4.5 | -0.3 | -1.0 to 0.3 | 30.4 | 23.3 to 39.9 |
| L-fold: |  |  |  |  |  |  |  |
| Total units | 1,472 | - | - | - | - | 41.7 | 36.2 to 48.2 |
| Black householder . | 62 | - | - | - | - | ... | ... |
| Non-Black householder.................. | 1,403 | - | - | - | - | 40.0 | 34.5 to 46.4 |
| Spanish/ Hispanic householder . . . . . . . . . | 23 | - | - | - | - | $\ldots$ | ... ... |
| Non-Spanish/ Hispanic householder. .... . | 1,408 | - | - | - | - | 41.2 | 35.6 to 47.7 |
| Non-Black and non-Spanish/ Hispanic householder | 1,348 | - |  | - | - | 39.6 | 34.0 to 46.1 |

[^10]Table 2. Summary Measures of Response Error for Housing Characteristics Estimated From Response Bias Type Reinterview: 1990 Census

| Census questions and categories | Sample size | Percent in class |  | Net difference rate |  | Index of inconsistency |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Census | CRS | Estimate | 90-percent confidence interval | Estimate | 90-percent confidence interval |
| H4: Tenure-Is This House or Apartment...? | 10,314 | - | - | - | - | - | - |
| Owned by you or someone in this household with a mortgage or loan ............. | - | 45.2 | 43.3 | * 1.9 | 1.5 to 2.3 | 13.4 | 12.6 to 14.3 |
| Owned by you or someone in this household free and clear (without a mortgage). . | - | 25.8 | 28.5 | *-2.6 | -3.0 to -2.2 | 15.3 | 14.3 to 16.3 |
| Rented for cash rent... | - | 26.9 | 26.2 | * 0.8 | 0.5 to 1.0 | 8.0 | 7.3 to 8.7 |
| Occupied without payment of cash rent | - | 2.0 | 2.1 | 0.0 | -0.3 to 0.2 | 44.0 | 39.0 to 49.7 |
| L-fold: |  |  |  |  |  |  |  |
| Total units | 10,314 | - | - | - | - | 13.3 | 12.6 to 14.0 |
| Black householder....................... . | 929 | - | - | - | - | 20.0 | 17.4 to 23.1 |
| Non-Black householder.. | 9,253 | - | - | - | - | 12.7 | 12.0 to 13.5 |
| Spanish/ Hispanic householder . . . . . . . . . | 546 | - | - | - | - | 16.1 | 13.1 to 19.9 |
| Non-Spanish/ Hispanic householder. . . . . | 9,360 | - | - | - | - | 13.2 | 12.5 to 14.0 |
| Non-Black and non-Spanish householder. | 8,447 | - | - | - | - | 12.6 | 11.9 to 13.4 |
| H7A: What is the Monthly Rent?......... | 2,449 | - | - | - | - | - | - |
| Less than \$80. | - | 3.8 | 3.7 | 0.1 | -0.4 to 0.6 | 29.7 | 23.6 to 37.3 |
| \$80 to \$99. |  | 1.9 | 1.6 | 0.3 | -0.1 to 0.7 | 45.0 | 34.5 to 58.7 |
| \$100 to \$124. |  | 3.3 | 3.2 | 0.0 | -0.4 to 0.5 | 30.6 | 24.0 to 38.8 |
| \$125 to \$149. | - | 2.7 | 2.5 | 0.2 | -0.2 to 0.7 | 38.5 | 30.4 to 48.8 |
| \$150 to \$174. | - | 4.5 | 4.3 | 0.1 | -0.4 to 0.7 | 31.6 | 25.8 to 38.8 |
| \$175 to \$199. | - | 3.4 | 3.1 | 0.3 | -0.2 to 0.8 | 31.8 | 25.2 to 40.3 |
| \$200 to \$224. | - | 5.5 | 5.9 | -0.4 | -1.0 to 0.1 | 25.8 | 21.1 to 31.4 |
| \$225 to \$249. | - | 3.7 | 3.2 | 0.5 | 0.0 to 1.0 | 32.5 | 25.9 to 40.7 |
| \$250 to \$274. | - | 5.5 | 5.6 | 0.0 | -0.6 to 0.6 | 30.1 | 24.9 to 36.3 |
| \$275 to \$299. | - | 5.0 | 4.7 | 0.3 | -0.3 to 0.9 | 33.0 | 27.3 to 39.9 |
| \$300 to \$324. | - | 5.8 | 6.2 | -0.4 | -1.1 to 0.3 | 36.9 | 31.4 to 43.4 |
| \$325 to \$349. |  | 4.0 | 3.7 | 0.2 | -0.3 to 0.8 | 38.7 | 31.8 to 47.1 |
| \$350 to \$374 | - | 5.7 | 5.6 | 0.1 | -0.5 to 0.8 | 35.6 | 30.0 to 42.2 |
| \$375 to \$399. | - | 5.0 | 4.9 | 0.2 | -0.5 to 0.8 | 37.4 | 31.3 to 44.6 |
| \$400 to \$424. | - | 5.2 | 5.6 | -0.4 | -1.1 to 0.3 | 42.2 | 35.9 to 49.5 |
| \$425 to \$449. | - | 3.6 | 3.3 | 0.3 | -0.3 to 0.9 | 48.7 | 40.6 to 58.6 |
| \$450 to \$474. | - | 4.0 | 4.4 | -0.4 | -1.0 to 0.2 | 45.6 | 38.3 to 54.2 |
| \$475 to \$499. | - | 3.8 | 3.3 | 0.4 | -0.1 to 1.0 | 36.5 | 29.6 to 45.1 |
| \$500 to \$524. | - | 3.0 | 3.4 | -0.4 | -1.0 to 0.1 | 38.8 | 31.3 to 48.1 |
| \$525 to \$549. | - | 2.0 | 1.7 | 0.3 | -0.1 to 0.8 | 47.5 | 36.9 to 61.2 |
| \$550 to \$599. |  | 4.6 | 4.6 | 0.0 | -0.6 to 0.6 | 33.7 | 27.8 to 40.9 |
| \$600 to \$649. | - | 2.6 | 3.7 | *-1.1 | -1.6 to -0.5 | 38.8 | 31.3 to 48.2 |
| \$650 to \$699............................. | - | 2.9 | 2.7 | 0.1 | -0.4 to 0.6 | 38.3 | 30.4 to 48.2 |
| \$700 to \$749. | - | 2.3 | 2.4 | -0.1 | -0.5 to 0.3 | 31.8 | 24.2 to 41.8 |
|  | - | 4.5 | 4.7 | -0.2 | -0.7 to 0.2 | 17.6 | 13.5 to 23.0 |
| \$1,000 or more. | - | 1.8 | 2.0 | -0.2 | -0.4 to 0.0 | 12.1 | 7.4 to 19.7 |
| L-fold: |  |  |  |  |  |  |  |
| Total units | 2,449 | - | - | - | - | 34.7 | 33.1 to 36.4 |
| Black householder . | 366 | - | - | - | - | 45.7 | 41.6 to 50.5 |
| Non-black householder.................. | 2,023 | - | - | - | - | 32.5 | 30.8 to 34.4 |
| Spanish/ Hispanic householder . . . . . . . . . | 232 | - | - | - | - | 41.5 | 36.6 to 47.7 |
| Non-Spanish/ Hispanic householder. . . . . | 2,098 | - | - | - | - | 34.0 | 32.4 to 35.9 |
| Non-black and non-Spanish/ Hispanic householder. | 1,744 | - | - | - |  | 31.8 | 29.9 to 33.7 |

* Indicates significance at the 10 -percent level.
- Not applicable.
... Not sufficient data to compute reliable response error measures.

Table 2. Summary Measures of Response Error for Housing Characteristics Estimated From Response Bias Type Reinterview: 1990 Census-Con.

| Census questions and categories | Sample size | Percent in class |  | Net difference rate |  | Index of inconsistency |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Census | CRS | Estimate | 90-percent confidence interval | Estimate | 90-percent confidence interval |
| H7B: Does the Monthly Rent Include Any Meals?$2,463$ |  |  |  |  |  |  |  |
| Yes |  | 0.4 | 0.2 | ... | ... ... | ... | ... ... |
| No |  | 99.6 | 99.8 | ... | ... ... | ... | ... ... |
| L-fold: |  |  |  |  |  |  |  |
| Total units | 2,463 | - | - | ... | ... | ... | ... ... |
| Black householder ${ }^{1}$ | 383 | 0.3 | 0.3 | ... | ... | $\ldots$ | ... ... |
| Non-black householder ${ }^{1}$ | 2,020 | 0.3 | 0.2 | ... | ... | ... | ... ... |
| Spanish/ Hispanic householder ${ }^{1}$ | 230 | 0.4 | 0.0 | ... | ... | ... | ... ... |
| Non-Spanish/ Hispanic householder ${ }^{1}$. | 2,110 | 0.4 | 0.2 | ... | ... | ... | ... ... |
| Non-black and non-Spanish/ Hispanic householder ${ }^{1}$ | 1,741 | 0.4 | 0.2 | ... | $\ldots$ | ... | ... ... |
| H10: Do You Have Complete Plumbing Facilities in This House or Apartment; That Is, 1) Hot and Cold Piped Water, 2) a Flush Toilet, and 3) a Bathtub or Shower? |  |  |  |  |  |  |  |
| Yes |  | 99.1 | 99.2 | -0.1 | -0.3 to 0.0 | 53.8 | 45.1 to 64.2 |
| No |  | 0.9 | 0.8 | 0.1 | 0.0 to 0.3 | 53.8 | 45.1 to 64.2 |
| L-fold: |  |  |  |  |  |  |  |
| Total units | 10,035 | 99.1 | 99.2 | -0.1 | -0.3 to 0.0 | 53.8 | 45.1 to 64.2 |
| Black householder ${ }^{1}$ | 886 | 98.0 | 98.6 | -0.7 | -1.5 to 0.1 | 61.0 | 41.5 to 89.7 |
| Non-Black householder ${ }^{1}$. . . . . | 9,035 | 99.3 | 99.3 | 0.0 | -0.2 to 0.1 | 50.4 | 41.0 to 61.8 |
| Spanish/ Hispanic householder ${ }^{1}$. . . | 509 | 98.0 | 99.0 | -1.0 | -2.1 to 0.2 | 87.8 | 55.8 to 138.1 |
| Non-Spanish/ Hispanic householder ${ }^{1}$. | 9,142 | 99.2 | 99.3 | -0.1 | -0.2 to 0.1 | 48.3 | 39.5 to 58.9 |
| Non-Black and non-Spanish/ Hispanic householder ${ }^{1}$ | 8,270 | 99.3 | 99.3 | 0.0 | -0.2 to 0.1 | 46.4 | 37.0 to 58.2 |
| H13: How Many Automobiles, Vans, and Trucks of 1-Ton Capacity or Less Are Kept at Home for Use By Members of Your Household? ...... 9,881 |  |  |  |  |  |  |  |
| None | - | 9.0 | 8.5 | * 0.5 | 0.3 to 0.8 | 16.9 | 15.3 to 18.7 |
|  | - | 32.1 | 31.7 | 0.4 | -0.2 to 0.9 | 22.6 | 21.4 to 23.8 |
| 2. | - | 39.1 | 39.4 | -0.4 | -1.0 to 0.3 | 32.1 | 30.9 to 33.4 |
|  | - | 14.4 | 14.4 | 0.1 | -0.5 to 0.6 | 43.8 | 1.8 to 45.9 |
| 4. | - | 4.0 | 4.5 | *-0.5 | -0.9 to -0.2 | 61.1 | 56.7 to 65.8 |
|  | - | 1.0 | 1.2 | -0.2 | -0.4 to 0.0 | 73.7 | 64.6 to 84.1 |
| 6... |  | 0.3 | 0.3 | 0.0 | -0.1 to 0.2 | 80.2 | 63.3 to 101.7 |
| 7 or more | - | 0.2 | 0.1 | 0.1 | 0.0 to 0.1 | 69.3 | 47.1 to 101.9 |
| L-fold: |  |  |  |  |  |  |  |
| Total units | 9,881 | - | - | - | - | 32.1 | 31.1 to 33.1 |
| Black householder . . . . . . . . . . . . . . . . . . | 857 | - | - | - | - | 36.1 | 32.9 to 39.7 |
| Non-Black householder. . | 8,916 | - | - | - | - | 31.9 | 30.9 to 32.9 |
| Spanish/ Hispanic householder . . . . . . . . . | 500 | - | - | - | - | 42.9 | 38.6 to 47.9 |
| Non-Spanish/ Hispanic householder. . . . . | 9,012 | - | - | - | - | 31.9 | 30.9 to 33.0 |
| Non-Black and non-Spanish/ Hispanic householder | 8,166 | - | - | - |  | 31.7 | 30.7 to 32.8 |
| * Indicates significance at the 10 -percent <br> ${ }^{1}$ Results for the category "Yes." | el. - Not | able. | sufficie | ata to comp | ute reliable res | nse error m | asures. |

Table 2. Summary Measures of Response Error for Housing Characteristics Estimated From Response Bias Type Reinterview: 1990 Census-Con.

| Census questions and categories | Sample size | Percent in class |  | Net difference rate |  | Index of inconsistency |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Census | CRS | Estimate | 90-percent confidence interval | Estimate | 90-percent confidence interval |
| H17: About When Was This Building First Built? | 9,825 | - | - | - |  | - |  |
| 1989 or 1990. | - | 1.1 | 1.5 | *-0.4 | -0.6 to -0.2 | 46.0 | 39.5 to 53.7 |
| 1985 to 1988. | - | 7.3 | 7.7 | *-0.4 | -0.7 to -0.1 | 23.2 | 21.2 to 25.4 |
| 1980 to 1984. | - | 7.5 | 7.9 | -0.4 | -0.8 to 0.0 | 36.5 | 33.9 to 39.2 |
| 1970 to 1979. | - | 19.1 | 21.1 | *-2.0 | -2.5 to -1.5 | 28.8 | 27.3 to 30.4 |
| 1960 to 1969 . | - | 13.9 | 14.8 | *-0.9 | -1.4 to -0.4 | 38.4 | 36.4 to 40.5 |
| 1950 to 1959. | - | 12.5 | 13.3 | *-0.8 | -1.3 to -0.3 | 39.2 | 37.1 to 41.5 |
| 1940 to 1949 | - | 6.9 | 7.6 | *-0.7 | -1.1 to -0.2 | 50.0 | 46.9 to 53.3 |
| 1939 or earlier. | - | 14.6 | 19.3 | *-4.7 | -5.2 to -4.2 | 34.9 | 33.1 to 36.8 |
| Don't know. | - | 17.1 | 6.8 | * 10.2 | 9.6 to 10.9 | 76.8 | 74.0 to 79.7 |
| L-fold: |  |  |  |  |  |  |  |
| Total units | 9,825 | - | - | - | - | 40.6 | 39.7 to 41.5 |
| Black householder | 826 | - | - | - | - | 65.4 | 62.3 to 68.9 |
| Non-Black householder.... | 8,892 | - | - | - | - | 38.1 | 37.2 to 39.1 |
| Spanish/ Hispanic householder | 477 | - | - | - | - | 61.0 | 57.0 to 65.6 |
| Non-Spanish/ Hispanic householder. . | 8,976 | - | - | - | - | 39.2 | 38.3 to 40.2 |
| Non-Black and non-Spanish/ Hispanic householder | 8,160 | - | - | - | - | 36.8 | 35.8 to 37.8 |

* Indicates significance at the 10-percent level. - Not applicable. ... Not sufficient data to compute reliable response error measures.

Table 3. Summary Measures of Response Error for Population Characteristics Estimated From Response Variance Type Reinterview: 1990 Census

| Census questions and categories | Sample size | Percent in class |  | Net difference rate |  | Index of inconsistency |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Census | CRS | Estimate | 90-percent confidence interval | Estimate | 90-percent confidence interval |
| P7: Is This Person of Spanish/ Hispanic Origin? | 23,979 | - | - | - |  |  |  |
| No (not Spanish/ Hispanic). . . . . . . . . . . . . . | - | 93.3 | 93.0 | * 0.3 | 0.2 to 0.4 | 9.3 | 8.4 to 10.2 |
| Yes, Mexican, Mexican-American, Chicano | - | 4.1 | 4.2 | -0.1 | -0.2 to 0.0 | 8.5 | 7.5 to 9.7 |
| Yes, Puerto Rican | - | 0.8 | 0.8 | 0.0 | 0.0 to 0.0 | 8.6 | 6.4 to 11.5 |
| Yes, Cuban | - | 0.3 | 0.3 | 0.0 | 0.0 to 0.0 | 13.6 | 9.4 to 19.5 |
| Yes, other Spanish/ Hispanic . | - | 1.6 | 1.7 | -0.1 | -0.2 to 0.0 | 34.1 | 30.8 to 37.7 |
| L-fold: |  |  |  |  |  |  |  |
| Total persons | 23,979 | - | - | - | - | 12.2 | 11.2 to 13.2 |
| Male | 11,448 | - | - | - | - | 12.5 | 11.2 to 14.1 |
| Female | 12,408 | - | - | - | - | 11.7 | 10.4 to 13.2 |
| White. | 20,149 | - | - | - | - | 14.7 | 13.2 to 16.3 |
| Black. | 2,232 | - | - | - | - | 61.4 | 44.2 to 85.2 |
| Other. | 1,223 | - | - | - | - | 12.5 | 10.5 to 14.8 |
| P10: When Did This Person Come to the United States to Stay? | 1,349 | - | - | - | - | - | - |
| 1987 to 1990. | - | 12.0 | 11.8 | 0.2 | -0.7 to 1.1 | 18.7 | 15.0 to 23.5 |
| 1985 or 1986 | - | 7.9 | 7.9 | -0.1 | -1.0 to 0.9 | 32.1 | 26.1 to 39.5 |
| 1982 to 1984. | - | 9.4 | 8.9 | 0.5 | -0.5 to 1.5 | 29.9 | 24.4 to 36.5 |
| 1980 or 1981. | - | 7.6 | 9.3 | *-1.6 | -2.7 to -0.5 | 38.3 | 31.9 to 46.0 |
| 1975 to 1979. | - | 14.8 | 13.8 | 1.0 | -0.1 to 2.1 | 24.5 | 20.4 to 29.5 |
| 1970 to 1974. | - | 10.7 | 10.7 | 0.1 | -0.8 to 1.0 | 20.5 | 16.4 to 25.7 |
| 1965 to 1969. | - | 8.2 | 8.5 | -0.2 | -1.1 to 0.6 | 23.8 | 18.8 to 30.0 |
| 1960 to 1964. | - | 6.7 | 6.4 | 0.2 | -0.5 to 0.9 | 18.7 | 14.0 to 25.2 |
| 1950 to 1959. | - | 12.6 | 13.3 | -0.7 | -1.5 to 0.2 | 16.1 | 12.8 to 20.4 |
| Before 1950. | - | 10.1 | 9.5 | 0.6 | -0.1 to 1.3 | 12.6 | 9.3 to 17.0 |
| L-fold: |  |  |  |  |  |  |  |
| Total persons | 1,349 | - | - | - |  | 23.0 | 21.1 to25.2 |
| Male | 633 | - | - | - | - | 22.8 | 20.1 to 26.0 |
| Female | 707 | - | - | - | - | 23.2 | 20.6 to 26.2 |
| White. | 706 | - | - | - | - | 19.3 | 16.9 to 22.2 |
| Black. | 63 | - | - | - | - | 25.6 | 18.2 to 38.1 |
| Other. | 477 | - | - | - | - | 24.4 | 21.1 to 28.2 |
| P11: At Any Time Since February 1, 1990 Has This Person Attended Regular School or College?....................$23,292$ |  |  |  |  |  |  |  |
| No, has not attended since February 1. | - | 76.3 | 75.5 | * 0.7 | 0.5 to 1.0 | 15.1 | 14.4 to 15.8 |
| Yes, public school, public college...... | - | 20.3 | 20.8 | *-0.5 | -0.8 to -0.3 | 16.8 | 16.0 to 17.6 |
| Yes, private school, private college ........ | - | 3.5 | 3.7 | *-0.2 | -0.4 to -0.1 | 31.2 | 29.0 to 33.6 |
| L-fold: |  |  |  |  |  |  |  |
| Total persons | 23,292 | - | - | - | - | 17.3 | 16.6 to 18.0 |
| Male | 11,062 | - | - | - | - | 16.6 | 15.6 to 17.6 |
| Female | 12,105 | - | - | - | - | 18.0 | 17.0 to 19.1 |
| White. | 19,724 | - | - | - | - | 16.4 | 15.6 to 17.2 |
| Black. | 2,079 | - | - | - | - | 22.1 | 19.7 to 24.8 |
| Other. | 1,129 | - | - | - | - | 22.4 | 19.4 to 25.9 |

[^11]Table 3. Summary Measures of Response Error for Population Characteristics Estimated From Response Variance Type Reinterview: 1990 Census-Con.

| Census questions and categories | Sample size | Percent in class |  | Net difference rate |  | Index of inconsistency |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Census | CRS | Estimate | 90-percent confidence interval | Estimate | 90-percent confidence interval |
| P28C: Is This Industry Mainly...? | 11,480 | - | - | - | - | - |  |
| Manufacturing . |  | 17.4 | 17.5 | -0.1 | -0.5 to 0.3 | 23.3 | 22.0 to 24.7 |
| Wholesale trade | - | 4.0 | 4.7 | * -0.7 | -1.1 to -0.4 | 57.9 | 54.0 to 62.1 |
| Retail trade | - | 16.2 | 16.9 | *-0.7 | -1.2 to -0.2 | 39.1 | 37.5 to 40.9 |
| Other. . | - | 62.4 | 60.9 | * 1.5 | 0.9 to 2.1 | 30.0 | 28.9 to 31.1 |
| L-fold: |  |  |  |  |  |  |  |
| Total persons | 11,480 | - | - | - | - | 32.6 | 31.6 to 33.7 |
| Male | 6,158 | - | - | - | - | 34.7 | 33.3 to 36.1 |
| Female | 5,278 | - | - | - | - | 30.4 | 28.9 to 32.1 |
| White. | 10,024 | - | - | - | - | 31.7 | 30.6 to 32.8 |
| Black. | 802 | - | - | - | - | 40.4 | 36.1 to 45.4 |
| Other. | 518 | - | - | - | - | 39.1 | 34.3 to 44.9 |

[^12]Table 4. Summary Measures of Response Error for Population Characteristics Estimated From Response Bias Type Reinterview: 1990 Census

| Census questions and categories | Sample size | Percent in class |  | Net difference rate |  | Index of inconsistency |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Census | CRS | Estimate | 90-percent confidence interval | Estimate | 90-percent confidence interval |
| P4: What Is This Person's Race? .... | 24,539 | - | - | - | - | - | - |
| White |  | 85.2 | 85.7 | *-0.5 | -0.7 to -0.3 | 13.5 | 12.8 to 14.3 |
| Black or Negro. |  | 9.7 | 9.8 | -0.1 | -0.2 to 0.0 | 3.9 | 3.5 to 4.4 |
| Indian (American) |  | 0.5 | 0.5 | 0.0 | -0.1 to 0.1 | 40.7 | 34.4 to 48.2 |
| Eskimo. | - | 0.0 | 0.0 | 0.0 | 0.0 to 0.0 | 100.0 | 33.0 to 302.3 |
| Aleut. | - | 0.0 | 0.0 | 0.0 | 0.0 to 0.0 | ... | ... |
| Chinese | - | 0.4 | 0.4 | 0.0 | -0.1 to 0.0 | 13.1 | 9.5 to 18.2 |
| Filipino | - | 0.5 | 0.4 | 0.1 | 0.0 to 0.1 | 11.7 | 8.4 to 16.2 |
| Hawaiian | - | 0.1 | 0.1 | 0.0 | 0.0 to 0.0 | 38.8 | 26.7 to 56.5 |
| Korean. | - | 0.3 | 0.3 | 0.0 | 0.0 to 0.0 | 5.5 | 3.0 to 10.2 |
| Vietnamese. | - | 0.1 | 0.1 | 0.0 | 0.0 to 0.0 | 17.7 | 10.3 to 30.4 |
| Japanese. | - | 0.3 | 0.3 | 0.0 | 0.0 to 0.0 | 13.3 | 9.0 to 19.5 |
| Asian Indian | - | 0.2 | 0.2 | 0.0 | 0.0 to 0.0 | 16.7 | 11.4 to 24.6 |
| Samoan. | - | 0.0 | 0.0 | 0.0 | 0.0 to 0.0 | 71.4 | 34.7 to 146.8 |
| Guamanian | - | 0.0 | 0.0 | 0.0 | 0.0 to 0.0 | 5.3 | 1.2 to 23.6 |
| Other API | - | 0.3 | 0.3 | 0.0 | -0.1 to 0.1 | 82.9 | 71.9 to 95.6 |
| Other race. | - | 2.4 | 1.9 | * 0.6 | 0.4 to 0.7 | 70.3 | 66.1 to 74.8 |
| L-fold: |  |  |  |  |  |  |  |
| Total persons | 24,539 | - | - | - | - | 16.3 | 15.5 to 17.1 |
| Male . | 11,674 | - | - | - |  | 18.5 | 17.3 to 19.9 |
| Female. | 12,751 | - | - | - | - | 14.5 | 13.4 to 15.6 |
| White . |  | - | - |  |  |  |  |
| Black | - | - | - | - | - | - |  |
| Other. |  |  |  |  |  |  |  |
| P8: In What U.S. State or Foreign Country Was This Person Born? | 17,046 | - | - | - | - | - | - |
| Alabama | - | 2.3 | 2.3 | 0.0 | -0.1 to 0.0 | 4.0 | 3.0 to 5.4 |
| Alaska | - | 0.1 | 0.2 | -0.1 | -0.1 to 0.0 | 56.8 | 39.7 to 81.2 |
| Arizona | - | 0.5 | 0.6 | 0.0 | -0.1 to 0.0 | 11.5 | 8.1 to 16.3 |
| Arkansas | - | 1.4 | 1.3 | 0.1 | 0.0 to 0.2 | 6.0 | 4.4 to 8.2 |
| California. | - | 5.1 | 5.1 | 0.0 | 0.0 to 0.1 | 4.6 | 3.8 to 5.6 |
| Colorado | - | 0.8 | 0.9 | 0.0 | -0.1 to 0.0 | 5.5 | 3.7 to 8.3 |
| Connecticut. | - | 1.1 | 1.1 | 0.0 | -0.1 to 0.0 | 6.6 | 4.8 to 9.2 |
| Delaware. | - | 0.1 | 0.1 | 0.0 | 0.0 to 0.0 | 12.0 | 6.2 to 23.2 |
| District of Columbia. | - | 0.4 | 0.4 | 0.0 | 0.0 to 0.1 | 13.5 | 9.2 to 19.8 |
| Florida. | - | 1.8 | 1.7 | 0.1 | 0.0 to 0.1 | 8.3 | 6.5 to 10.5 |
| Georgia | - | 2.2 | 2.2 | 0.0 | -0.1 to 0.0 | 4.3 | 3.2 to 5.8 |
| Hawaii | - | 0.3 | 0.3 | 0.0 | 0.0 to 0.0 | 2.8 | 1.1 to 6.9 |
| Idaho | - | 0.3 | 0.3 | 0.0 | 0.0 to 0.0 | 4.5 | 2.0 to 9.9 |
| Illinois. | - | 5.7 | 5.8 | 0.0 | -0.1 to 0.0 | 2.7 | 2.1 to 3.4 |
| Indiana. | - | 2.7 | 2.8 | -0.1 | -0.2 to 0.0 | 5.5 | 4.4 to 6.9 |
| lowa. | - | 1.9 | 1.8 | 0.1 | 0.0 to 0.1 | 6.0 | 4.6 to 7.9 |
| Kansas. | - | 1.4 | 1.4 | 0.1 | 0.0 to 0.1 | 7.0 | 5.3 to 9.3 |
| Kentucky. | - | 2.3 | 2.2 | 0.1 | 0.0 to 0.1 | 4.2 | 3.2 to 5.6 |
| Louisiana. | - | 2.1 | 2.1 | 0.0 | -0.1 to 0.0 | 3.2 | 2.3 to 4.5 |
| Maine . | - | 0.5 | 0.5 | 0.0 | 0.0 to 0.0 | 5.2 | 3.0 to 8.9 |
| Maryland . | - | 1.2 | 1.2 | 0.0 | 0.0 to 0.0 | 5.8 | 4.1 to 8.1 |
| Massachusetts . | - | 2.5 | 2.5 | 0.0 | 0.0 to 0.1 | 4.5 | 3.4 to 5.9 |
| Michigan | - | 4.0 | 4.1 | *-0.1 | -0.2 to -0.1 | 4.7 | 3.8 to 5.8 |
| Minnesota | - | 2.3 | 2.3 | 0.0 | 0.0 to 0.1 | 4.2 | 3.1 to 5.6 |
| Mississippi. | - | 1.7 | 1.7 | 0.0 | 0.0 to 0.1 | 6.4 | 4.9 to 8.4 |
| Missouri. | - | 2.5 | 2.6 | -0.1 | -0.1 to 0.0 | 6.5 | 5.2 to 8.1 |
| Montana | - | 0.2 | 0.2 | 0.0 | 0.0 to 0.1 | 13.2 | 7.9 to 22.1 |

[^13]Table 4. Summary Measures of Response Error for Population Characteristics Estimated From Response Bias Type Reinterview: 1990 Census-Con.

| Census questions and categories | Sample size | Percent in class |  | Net difference rate |  | Index of inconsistency |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Census | CRS | Estimate | 90-percent confidence interval | Estimate | 90-percent confidence interval |
| P8: In What U.S. State or Foreign Country Was This Person Born?-Con. |  |  |  |  |  |  |  |
| Nebraska. | - | 0.8 | 0.8 | 0.0 | 0.0 to 0.0 | 2.2 | 1.1 to 4.2 |
| Nevada | - | 0.1 | 0.1 | 0.0 | 0.0 to 0.0 | 8.1 | 3.2 to 20.3 |
| New Hampshire. | - | 0.3 | 0.3 | 0.0 | 0.0 to 0.1 | 7.4 | 4.0 to 13.6 |
| New Jersey.. | - | 2.3 | 2.3 | 0.0 | -0.1 to 0.1 | 6.1 | 4.8 to 7.8 |
| New Mexico | - | 0.3 | 0.3 | 0.0 | 0.0 to 0.0 | 13.8 | 8.9 to 21.3 |
| New York | - | 7.5 | 7.5 | 0.0 | -0.1 to 0.1 | 4.4 | 3.8 to 5.2 |
| North Carolina | - | 2.8 | 2.8 | 0.0 | -0.1 to 0.1 | 4.7 | 3.7 to 6.0 |
| North Dakota | - | 0.4 | 0.4 | 0.0 | 0.0 to 0.0 | 4.6 | 2.4 to 9.0 |
| Ohio . | - | 5.2 | 5.2 | 0.0 | -0.1 to 0.1 | 4.6 | 3.8 to 5.6 |
| Oklahoma | - | 1.5 | 1.5 | 0.0 | 0.0 to 0.1 | 5.0 | 3.6 to 7.0 |
| Oregon. | - | 0.5 | 0.5 | 0.0 | 0.0 to 0.0 | 5.4 | 3.2 to 9.0 |
| Pennsylvania | - | 5.9 | 5.8 | 0.1 | 0.0 to 0.1 | 2.4 | 1.9 to 3.0 |
| Rhode Island | - | 0.5 | 0.5 | 0.0 | 0.0 to 0.1 | 6.4 | 3.8 to 10.6 |
| South Carolina . | - | 1.7 | 1.7 | 0.0 | 0.0 to 0.1 | 5.2 | 3.8 to 7.0 |
| South Dakota | - | 0.3 | 0.3 | 0.0 | 0.0 to 0.0 | 6.4 | 3.5 to 11.9 |
| Tennessee | - | 2.3 | 2.3 | 0.0 | -0.1 to 0.0 | 5.4 | 4.2 to 7.0 |
| Texas. | - | 4.9 | 4.9 | 0.0 | -0.1 to 0.1 | 3.9 | 3.2 to 4.8 |
| Utah . | - | 0.5 | 0.5 | 0.0 | 0.0 to 0.0 | 7.0 | 4.3 to 11.5 |
| Vermont. | - | 0.1 | 0.1 | 0.0 | 0.0 to 0.0 | 11.1 | 5.0 to 24.8 |
| Virginia. | - | 2.2 | 2.2 | 0.0 | -0.1 to 0.1 | 7.1 | 5.7 to 9.0 |
| Washington. | - | 1.2 | 1.2 | 0.0 | 0.0 to 0.1 | 4.1 | 2.8 to 6.1 |
| West Virginia | - | 1.3 | 1.3 | 0.0 | 0.0 to 0.1 | 5.0 | 3.5 to 7.0 |
| Wisconsin | - | 2.9 | 2.9 | 0.0 | 0.0 to 0.1 | 1.8 | 1.2 to 2.6 |
| Wyoming | - | 0.2 | 0.2 | 0.0 | 0.0 to 0.0 | 1.8 | 0.4 to 7.9 |
| Puerto Rico. | - | 0.3 | 0.4 | 0.0 | -0.1 to 0.0 | 15.1 | 10.2 to 22.1 |
| Guam.. | - | 0.0 | 0.0 | 0.0 | 0.0 to 0.0 | 0.0 | 0.0 to 16.9 |
| American Samoa. | - | 0.0 | 0.0 | 0.0 | 0.0 to 0.0 | 33.3 | 7.4 to 149.5 |
| U.S. Virgin Islands . | - | 0.0 | 0.0 | 0.0 | 0.0 to 0.0 | ... | ... |
| Other U.S. trusts and possessions | - | 0.0 | 0.0 | 0.0 | 0.0 to 0.0 | 50.0 | 16.5 to 151.2 |
| Canada | - | 0.3 | 0.3 | 0.0 | 0.0 to 0.0 | 6.5 | 3.4 to 12.6 |
| Mexico | - | 1.1 | 1.2 | 0.0 | -0.1 to 0.0 | 6.7 | 4.9 to 9.3 |
| All other responses. | - | 5.0 | 5.0 | -0.1 | -0.2 to 0.0 | 4.6 | 3.8 to 5.6 |
| L-fold: |  |  |  |  |  |  |  |
| Total persons | 17,046 | - | - | - | - | 4.9 | 4.6 to 5.2 |
| Male . | 7,826 | - | - | - | - | 4.8 | 4.4 to 5.2 |
| Female. | 9,220 | - | - | - | - | 4.9 | 4.6 to 5.3 |
| White | 14,467 | - | - | - | - | 4.3 | 4.0 to 4.6 |
| Black | 1,680 | - | - | - | - | 9.0 | 7.9 to 10.3 |
| Other | 899 |  | - | - | - | 7.8 | 6.2 to 9.6 |

Table 4. Summary Measures of Response Error for Population Characteristics Estimated From Response Bias Type Reinterview: 1990 Census-Con.

| Census questions and categories | Sample size | Percent in class |  | Net difference rate |  | Index of inconsistency |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Census | CRS | Estimate | 90-percent confidence interval | Estimate | 90-percent confidence interval |
| P9: Is This Person a Citizen of the United States? | 23,406 |  |  |  |  | - |  |
| Yes, born in the United States. | - | 93.5 | 93.8 | *-0.3 | -0.4 to -0.2 | 5.8 | 5.1 to 6.6 |
| Yes, born in Puerto Rico, Guam, the U.S. Virgin Islands, or Northern Marianas | - | 0.4 | 0.4 | 0.0 | 0.0 to 0.1 | 24.2 | 18.8 to 31.2 |
| Yes, born abroad of American parent of parents |  | 0.4 | 0.4 | 0.0 | 0.0 to 0.1 | 35.2 | 28.8 to 43.1 |
| Yes, U.S. citizen by naturalization | - | 2.6 | 2.4 | * 0.3 | 0.2 to 0.4 | 18.7 | 16.7 to 21.0 |
| No, not a citizen of the United States...... | - | 3.0 | 3.1 | 0.0 | -0.1 to 0.0 | 9.9 | 8.6 to 11.3 |
| L-fold: |  |  |  |  |  |  |  |
| Total persons. | 23,406 | - | - | - | - | 10.9 | 10.0 to 12.0 |
| Male | 11,095 | - | - | - | - | 11.2 | 9.8 to 12.8 |
| Female. | 12,186 |  | - | - |  | 10.8 | 9.5 to 12.3 |
| White | 19,817 | - | - | - | - | 11.3 | 10.0 to 12.8 |
| Black | 2,091 | - | - | - | - | 15.1 | 10.5 to 21.5 |
| Other | 1,137 | - | - | - | - | 13.1 | 11.0 to 15.6 |
| Hispanic. | 1,442 | - | - | - |  | 16.0 | 13.8 to 18.4 |
| Non-Hispanic | 21,177 | - | - | - | - | 10.1 | 8.9 to 11.4 |
| P12: How much school has this person completed? | 20,259 |  | - |  |  |  |  |
| No school completed | - | 7.7 | 8.2 | *-0.5 | -0.7 to -0.4 | 14.7 | 13.6 to 15.9 |
| Nursery school |  | 1.8 | 1.7 | 0.1 | 0.0 to 0.3 | 60.8 | 56.1 to 65.9 |
| Kindergarten | - | 1.3 | 1.1 | * 0.2 | 0.1 to 0.3 | 58.1 | 52.6 to 64.2 |
| 1st, 2nd, 3rd, or 4th grade | - | 3.7 | 4.0 | *-0.2 | -0.4 to -0.1 | 25.9 | 23.9 to 28.2 |
| 5th, 6th, 7th, or 8th grade | - | 6.9 | 6.7 | 0.2 | 0.0 to 0.4 | 26.7 | 25.0 to 28.4 |
| 9 9th grade | - | 2.9 | 3.2 | *-0.4 | -0.6 to -0.1 | 55.8 | 52.3 to 59.4 |
| 10th grade | - | 4.7 | 5.0 | -0.2 | -0.5 to 0.0 | 52.9 | 50.2 to 55.7 |
| 11th grade .............................. | - | 4.3 | 5.4 | *-1.1 | -1.4 to -0.8 | 59.5 | 56.6 to 62.5 |
| 12th grade, no diploma | - | 2.8 | 0.7 | * 2.1 | 1.9 to 2.3 | 96.7 | 90.7 to 103.1 |
| High school graduate | - | 26.7 | 27.9 | *-1.2 | -1.6 to -0.8 | 28.5 | 27.6 to 29.4 |
| Some college but no degree | - | 16.4 | 15.9 | * 0.5 | 0.2 to 0.8 | 31.3 | 30.1 to 32.6 |
| Associate degree-occupational .......... | - | 2.5 | 1.8 | * 0.7 | 0.5 to 0.9 | 58.5 | 54.3 to 63.0 |
| Associate degree-academic | - | 2.1 | 1.7 | * 0.4 | 0.2 to 0.5 | 48.6 | 44.6 to 53.0 |
| Bachelor's degree | - | 10.8 | 11.2 | *-0.4 | -0.5 to-0.2 | 9.9 | 9.1 to 10.8 |
| Master's degree | - | 3.7 | 3.7 | 0.0 | -0.1 to 0.1 | 9.4 | 8.1 to 10.8 |
| Professional school degree | - | 1.3 | 1.0 | * 0.2 | 0.1 to 0.3 | 45.4 | 40.5 to 50.8 |
| Doctorate degree | - | 0.6 | 1.0 | *-0.4 | -0.5 to -0.3 | 32.9 | 28.0 to 38.8 |
| L-fold: |  |  |  |  |  |  |  |
| Total Persons. | 20,259 | - | - | - | - | 32.3 | 31.7 to 32.9 |
| Male . | 9,610 | - | - | - | - | 32.0 | 31.1 to 32.8 |
| Female. | 10,551 | - | - | - | - | 32.6 | 31.7 to 33.4 |
| White | 17,273 | - | - | - | - | 30.5 | 29.9 to 31.2 |
| Black | 1,790 | - | - | - | - | 41.9 | 39.9 to 44.1 |
| Other | 914 | - | - | - | - | 41.7 | 39.0 to 44.8 |

[^14]Table 4. Summary Measures of Response Error for Population Characteristics Estimated From Response Bias Type Reinterview: 1990 Census-Con.

| Census questions and categories | Sample size | Percent in class |  | Net difference rate |  | Index of inconsistency |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Census | CRS | Estimate | 90-percent confidence interval | Estimate | 90-percent confidence interval |
| P13: What is this person's ancestry or ethnic origin? (single response only). |  |  |  |  |  |  |  |
| Arab |  | 0.3 | 0.4 | 0.0 | -0.1 to 0.0 | 7.7 | 3.5 to 17.2 |
| Austrian. | - | 0.3 | 0.3 | 0.0 | -0.1 to 0.1 | 28.7 | 17.9 to 45.9 |
| Belgian. | - | 0.1 | 0.1 | 0.0 | 0.0 to 0.0 | 0.0 | 0.0 to 19.4 |
| Canadian. | - | 0.1 | 0.2 | -0.1 | -0.2 to 0.0 | ... | ... ... |
| Czech. | - | 0.5 | 0.7 | *-0.2 | -0.3 to -0.1 | 33.5 | 24.9 to 45.2 |
| Danish | - | 0.3 | 0.3 | 0.1 | 0.0 to 0.1 | 13.1 | 6.8 to 25.3 |
| Dutch | - | 1.1 | 1.2 | -0.1 | -0.2 to 0.0 | 25.6 | 19.9 to 33.0 |
| English. | - | 6.6 | 6.4 | 0.2 | -0.2 to 0.6 | 37.3 | 34.1 to 40.8 |
| Finnish. | - | 0.2 | 0.2 | 0.0 | 0.0 to 0.1 | 10.4 | 4.1 to 25.9 |
| French (except Basque). | - | 1.1 | 1.7 | *-0.6 | -0.8 to -0.4 | 42.6 | 35.7 to 50.8 |
| French Canadian. | - | 1.2 | 0.5 | * 0.7 | 0.5 to 0.9 | 53.6 | 43.8 to 65.6 |
| German | - | 18.1 | 17.9 | 0.2 | -0.2 to 0.6 | 14.5 | 13.3 to 15.9 |
| Greek. | - | 0.3 | 0.3 | 0.0 | 0.0 to 0.0 | 0.0 | 0.0 to 5.4 |
| Hungarian | - | 0.7 | 0.7 | 0.0 | -0.1 to 0.0 | 7.9 | 4.4 to 14.0 |
| Irish | - | 7.8 | 8.1 | -0.3 | -0.7 to 0.1 | 29.0 | 26.4 to 31.8 |
| Italian | - | 5.8 | 5.7 | 0.1 | -0.1 to 0.2 | 4.9 | 3.8 to 6.4 |
| Lithuanian | - | 0.2 | 0.2 | 0.0 | 0.0 to 0.1 | 20.0 | 10.9 to 37.0 |
| Norwegian. | - | 1.2 | 1.4 | -0.1 | -0.3 to 0.0 | 13.0 | 9.4 to 18.4 |
| Polish. | - | 3.0 | 3.0 | 0.0 | -0.1 to 0.1 | 5.9 | 4.3 to 8.1 |
| Portuguese | - | 0.6 | 0.5 | 0.0 | 0.0 to 0.1 | 3.7 | 1.5 to 9.3 |
| Romanian | - | 0.1 | 0.2 | 0.0 | -0.1 to 0.0 | 16.7 | 7.5 to 37.2 |
| Russian | - | 0.8 | 0.9 | 0.0 | -0.2 to 0.1 | 32.6 | 25.2 to 42.1 |
| Scotch-Irish. | - | 1.3 | 0.9 | * 0.4 | 0.2 to 0.6 | 60.6 | 51.4 to 71.5 |
| Scottish | - | 0.9 | 1.4 | *-0.4 | -0.6 to -0.2 | 38.0 | 31.0 to 46.6 |
| Slovak | - | 0.6 | 0.4 | * 0.3 | 0.1 to 0.4 | 35.2 | 25.7 to 48.3 |
| Subsaharan African. | - | 0.3 | 0.8 | *-0.5 | -0.6 to -0.3 | 72.5 | 58.3 to 90.1 |
| Swedish. | - | 0.9 | 0.9 | 0.0 | -0.1 to 0.1 | 24.7 | 18.5 to 32.8 |
| Swiss | - | 0.2 | 0.2 | 0.0 | -0.1 to 0.0 | 23.1 | 11.9 to 44.7 |
| Ukrainian | - | 0.3 | 0.3 | 0.0 | 0.0 to 0.1 | 23.5 | 14.4 to 38.4 |
| United States or American | - | 7.6 | 6.8 | * 0.8 | 0.2 to 1.4 | 71.5 | 67.3 to 76.0 |
| Welsh. . | - | 0.2 | 0.3 | -0.1 | -0.2 to 0.0 | 45.1 | 30.7 to 66.3 |
| West Indian. | - | 0.8 | 0.8 | 0.0 | -0.1 to 0.1 | 13.7 | 9.2 to 20.4 |
| Yugoslavian | - | 0.3 | 0.2 | 0.0 | 0.0 to 0.1 | 21.1 | 11.9 to 37.5 |
| Race or Hispanic origin groups | - | 28.7 | 25.6 | * 3.1 | 2.6 to 3.5 | 15.0 | 13.9 to 16.2 |
| Other groups | - | 6.5 | 6.7 | -0.3 | -0.6 to 0.1 | 22.8 | 20.3 to 25.5 |
| Unclassified | - | 0.9 | 4.0 | *-3.0 | -3.4 to -2.6 | 90.5 | 82.7 to 99.1 |
| L-fold: |  |  |  |  |  |  |  |
| Total persons. | 7,513 | - | - | - | - | 26.5 | 25.6 to 27.4 |
| Male | 3, 534 | - | - | - | - | 26.6 | 25.3 to 28.0 |
| Female | 3,979 | - | - | - | - | 26.4 | 25.1 to 27.7 |
| White | 5,436 | - | - | - | - | 29.2 | 28.2 to 30.3 |
| Black | 1,384 | - | - | - | - | 68.9 | 63.2 to 75.3 |
| Other | 693 | - | - | - | - | 9.1 | 6.9 to 12.1 |
| Native born | 6,665 | - | - | - | - | 29.0 | 28.0 to 30.0 |
| Foreign born.. | 848 | - | - | - | - | 7.5 | 5.9 to 9.5 |

[^15]Table 4. Summary Measures of Response Error for Population Characteristics Estimated From Response Bias Type Reinterview: 1990 Census-Con.

| Census questions and categories | Sample size | Percent in class |  | Net difference rate |  | Index of inconsistency |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Census | CRS | Estimate | 90-percent confidence interval | Estimate | 90-percent confidence interval |
| P15A: Does this person speak a language other than English at home?. |  |  |  |  |  |  |  |
| Yes | - | 10.1 | 10.1 | 0.0 | -0.2 to 0.3 | 26.9 | 25.6 to 28.3 |
| No |  | 89.9 | 89.9 | 0.0 | -0.3 to 0.2 | 26.9 | 25.6 to 28.3 |
| L-fold: |  |  |  |  |  |  |  |
| Total persons | 21,752 | 10.1 | 10.1 | 0.0 | -0.2 to 0.3 | 26.9 | 25.6 to 28.3 |
| Male ${ }^{1}$ | 10,262 | 10.0 | 10.3 | -0.3 | -0.7 to 0.0 | 25.8 | 24.0 to 27.9 |
| Female ${ }^{1}$ | 11,376 | 10.3 | 10.0 | 0.3 | 0.0 to 0.7 | 27.8 | 26.0 to 29.8 |
| White ${ }^{1}$ | 18,487 | 7.0 | 7.2 | -0.1 | -0.4 to 0.1 | 33.2 | 31.4 to 35.2 |
| Black ${ }^{1}$ | 1,910 | 4.0 | 3.2 | 0.7 | -0.1 to 1.6 | 72.1 | 61.0 to 85.3 |
| Other ${ }^{1}$ | 1,030 | 66.0 | 64.5 | 1.6 | -0.3 to 3.4 | 28.7 | 25.2 to 32.8 |
| Hispanic ${ }^{1}$. | 1,305 | 71.8 | 73.3 | -1.5 | -3.0 to 0.1 | 27.9 | 24.5 to 31.7 |
| Non-Hispanic ${ }^{1}$ | 19,728 | 6.1 | 6.0 | 0.1 | -0.1 to 0.3 | 39.2 | 37.1 to 41.4 |
| P 15 B : What is this language? . | 1,261 | - | - | - |  | - | - |
| German | - | 5.0 | 4.9 | 0.1 | -0.3 to 0.5 | 7.6 | 4.4 to 13.0 |
| Yiddish | - | 0.1 | 0.2 | -0.1 | -0.4 to 0.1 | 33.4 | 7.4 to 149.6 |
| Scandinavian | - | 0.5 | 0.5 | 0.0 | -0.2 to 0.2 | 0.0 | 0.0 to 22.7 |
| Greek | - | 0.8 | 0.8 | 0.0 | -0.2 to 0.2 | 10.1 | 3.3 to 30.5 |
| Indic | - | 1.7 | 1.4 | 0.3 | 0.0 to 0.7 | 10.2 | 4.6 to 22.6 |
| Italian | - | 4.1 | 4.0 | 0.1 | -0.2 to 0.4 | 5.1 | 2.5 to 10.4 |
| French | - | 5.8 | 6.4 | *-0.6 | -1.1 to -0.2 | 6.9 | 4.1 to 11.6 |
| Portuguese | - | 1.5 | 1.4 | 0.1 | -0.1 to 0.4 | 2.7 | 0.6 to 12.3 |
| Spanish | - | 52.9 | 52.3 | * 0.6 | 0.1 to 1.1 | 2.2 | 1.4 to 3.4 |
| Polish | - | 2.5 | 2.6 | -0.1 | -0.4 to 0.1 | 1.6 | 0.4 to 7.1 |
| Russian | - | 0.6 | 0.6 | 0.0 | -0.2 to 0.2 | 0.0 | 0.0 to 17.0 |
| Slavic | - | 1.6 | 1.5 | 0.1 | -0.2 to 0.4 | 13.0 | 6.3 to 26.8 |
| Other Indo-European languages |  | 2.4 | 2.3 | 0.1 | -0.2 to 0.4 | 8.7 | 4.2 to 17.8 |
| Arabic | - | 1.3 | 1.4 | -0.2 | -0.5 to 0.1 | 6.0 | 2.0 to 18.0 |
| Tagalog | - | 3.1 | 3.2 | -0.1 | -0.5 to 0.3 | 11.8 | 6.8 to 20.2 |
| Chinese | - | 5.2 | 5.1 | 0.2 | -0.1 to 0.4 | 3.2 | 1.5 to 7.2 |
| Hungarian | - | 1.7 | 1.4 | 0.2 | 0.0 to 0.6 | 7.8 | 3.1 to 19.6 |
| Japanese | - | 1.3 | 1.3 | 0.1 | -0.1 to 0.4 | 3.1 | 0.7 to 13.8 |
| MonKhmer | - | 1.0 | 0.8 | 0.2 | -0.1 to 0.5 | 9.2 | 3.0 to 27.7 |
| Korean | - | 2.7 | 2.7 | 0.0 | -0.2 to 0.2 | 0.0 | 0.0 to 4.1 |
| American Indian languages | - | 0.2 | 0.2 | 0.0 | -0.2 to 0.2 | 0.0 | 0.0 to 45.2 |
| Vietnamese |  | 0.9 | 0.9 | 0.0 | -0.2 to 0.2 | 0.0 | 0.0 to 12.4 |
| Other languages | - | 3.1 | 4.0 | *-1.0 | -1.5 to -0.5 | 16.1 | 10.4 to 24.9 |
| L-fold: |  |  |  |  |  |  |  |
| Total persons | 1,261 | - | - | - | - | 5.2 | 4.0 to 6.6 |
| Male . | 594 | - | - | - | - | 5.4 | 3.9 to 7.7 |
| Female. | 667 | - | - | - | - | 4.9 | 3.5 to 6.9 |
| White | 712 | - | - | - | - | 5.4 | 4.0 to 7.4 |
| Black | 27 | - | - | - | - | 14.6 | 4.8 to 44.0 |
| Other | 522 | - | - | - | - | 4.8 | 3.2 to 7.2 |
| * Indicates significance at the 10-percent level. - Not applicable. ... Not sufficient data to compute response error measures. <br> ${ }^{1}$ Results for the category "Yes." |  |  |  |  |  |  |  |

Table 4. Summary Measures of Response Error for Population Characteristics Estimated From Response Bias Type Reinterview: 1990 Census-Con.

| Census questions and categories | Sample size | Percent in class |  | Net difference rate |  | Index of inconsistency |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Census | CRS | Estimate | 90-percent confidence interval | Estimate | 90-percent confidence interval |
| P15C: How well does this person speak English? | 1,834 | - | - | - | - | - |  |
| Very well |  | 55.2 | 53.1 | *2.2 | 0.2 to 4.1 | 51.4 | 48.1 to 54.9 |
| Well . . . |  | 25.6 | 24.0 | 1.6 | -0.4 to 3.6 | 74.7 | 70.3 to 79.5 |
| Not well |  | 13.5 | 16.4 | *-2.9 | -4.5 to -1.4 | 61.7 | 56.5 to 67.5 |
| Not at all |  | 5.7 | 6.5 | -0.8 | -1.7 to 0.1 | 48.8 | 41.5 to 57.3 |
| L-fold: |  |  |  |  |  |  |  |
| Total persons | 1,834 | - | - | - | - | 60.3 | 57.4 to 63.4 |
| Male . | 882 | - | - | - | - | 57.8 | 53.7 to 62.4 |
| Female. | 942 | - | - | - | - | 62.7 | 58.8 to 67.2 |
| White | 1,020 | - | - | - | - | 60.7 | 56.7 to 65.2 |
| Black . . . . . . . . . . . . . . . . . . . . . . . . . . . . . | 39 | - | - | - | - | 81.3 | 62.5 to 113.8 |
| Other | 630 | - | - | - |  | 58.4 | 53.9 to 63.5 |
| Hispanic. | 911 | - | - | - | - | 60.5 | 56.8 to 64.6 |
| Non-Hispanic | 877 | - | - | - | - | 62.5 | 57.8 to 67.7 |
| P17A: Has this person ever been on active-duty military service in the Armed Forces of the United States or ever been in the United States military Reserves or the National Guard? | 18,364 | - | - | - |  | - |  |
| Yes, now on active duty | - | 1.0 | 0.5 | * 0.5 | 0.4 to 0.6 | 35.0 | 29.7 to 41.3 |
| Yes, on active duty in past, but not now ... | - | 14.5 | 15.0 | *-0.5 | -0.7 to -0.3 | 8.3 | 7.6 to 9.0 |
| Yes, service in Reserves or National Guard only |  | 1.8 | 1.9 | -0.1 | -0.2 to 0.0 | 27.6 | 24.4 to 31.2 |
| No |  | 82.7 | 82.6 | 0.1 | 0.0 to 0.2 | 5.0 | 4.5 to 5.5 |
| L-fold: |  |  |  |  |  |  |  |
| Total persons | 18,364 | - | - | - | - | 8.5 | 7.9 to 9.2 |
| Male . | 8,554 | - | - | - | - | 9.5 | 8.8 to 10.3 |
| Female. | 9,717 | - | - | - |  | 28.5 | 23.1 to 35.3 |
| White | 15,735 | - | - | - | - | 7.8 | 7.2 to 8.5 |
| Black | 1,537 | - | - | - | - | 17.5 | 14.1 to 21.8 |
| Other | 823 | - | - | - | - | 15.4 | 10.7 to 22.2 |
| P17B1: Was active-duty military service during September 1980 or later? | 2,116 | - | - | - | - | - |  |
| Yes |  | 6.0 | 7.6 | *-1.6 | -2.1 to -1.0 | 18.2 | 14.4 to 23.0 |
| No | - | 94.0 | 92.4 | * 1.6 | 1.0 to 2.1 | 18.2 | 14.4 to 23.0 |
| L-fold: ${ }^{1}$ |  |  |  |  |  |  |  |
| Total persons............................ . | 2,116 | - | - | - | - | 18.2 | 14.4 to 23.0 |
| P17B2: Was active-duty military service during May 1975 to August 1980? | 2,116 | - | - | - |  | - |  |
| Yes |  | 7.1 | 10.7 | *-3.6 | -4.3 to -2.9 | 24.9 | 20.8 to 29.7 |
| No | - | 92.9 | 89.3 | * 3.6 | 2.9 to 4.3 | 24.9 | 20.8 to 29.7 |
| L-fold: ${ }^{1}$ |  |  |  |  |  |  |  |
| Total persons | 2,116 | - | - | - | - | 24.9 | 20.8 to 29.7 |

Table 4. Summary Measures of Response Error for Population Characteristics Estimated From Response Bias Type Reinterview: 1990 Census-Con.

| Census questions and categories | Sample size | Percent in class |  | Net difference rate |  | Index of inconsistency |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Census | CRS | Estimate | 90-percent confidence interval | Estimate | 90-percent confidence interval |
| P17B3: Was active-duty military service during the Vietnam era (August 1964 to April 1975)? ................ |  |  |  |  |  |  |  |
| Yes |  | 32.1 | 34.1 | *-2.0 | -2.6 to -1.3 | 7.5 | 6.1 to 9.1 |
| No |  | 67.9 | 65.9 | * 2.0 | 1.3 to 2.6 | 7.5 | 6.1 to 9.1 |
| L-fold: ${ }^{1}$ |  |  |  |  |  |  |  |
| Total persons | 2,116 | - | - | - | - | 7.5 | 6.1 to 9.1 |
| P17B4: Was active-duty military service during February 1955 to July 1964?$2,116$ |  |  |  |  |  |  |  |
| Yes | - | 17.0 | 28.9 | *-11.9 | -13.2 to -10.6 | 34.6 | 31.5 to 38.1 |
| No |  | 83.0 | 71.1 | * 11.9 | 10.6 to 13.2 | 34.6 | 31.5 to 38.1 |
| L-fold: ${ }^{1}$ |  |  |  |  |  |  |  |
| Total persons | 2,116 | - | - | - | - | 34.6 | 31.5 to 38.1 |
| P17B5: Was active-duty military service during the Korean conflict (June 1950 to January 1955)............. |  |  |  |  |  |  |  |
| Yes | - | 20.1 | 21.3 | *-1.2 | -1.8 to -0.6 | 8.2 | 6.6 to 10.2 |
| No | - | 79.9 | 78.7 | * 1.2 | 0.6 to 1.8 | 8.2 | 6.6 to 10.2 |
| L-fold': |  |  |  |  |  |  |  |
| Total persons............................. | 2,116 | - | - | - | - | 8.2 | 6.6 to 10.2 |
| P17B6: Was active-duty military service during World War II (September 1940 to July 1947)? ................ |  |  |  |  |  |  |  |
| Yes | - | 35.4 | 36.1 | *-0.6 | -1.1 to -0.2 | 3.4 | 2.6 to 4.5 |
| No | - | 64.6 | 63.9 | * 0.6 | 0.2 to 1.1 | 3.4 | 2.6 to 4.5 |
| L-fold: ${ }^{1}$ |  |  |  |  |  |  |  |
| Total persons............................ . | 2,116 | - | - | - | - | 3.4 | 2.6 to 4.5 |
| P17B7: Was active-duty military service during World War I (April 1917 to November 1918)? ................... <br> 2,116 |  |  |  |  |  |  |  |
| Yes ......... |  | $\ldots$ | ... | $\ldots$ | ... ... | ... | ... ... |
| No |  | ... | $\ldots$ | $\ldots$ | ... ... | ... | $\ldots$ |
| L-fold ${ }^{1}$ : |  |  |  |  |  |  |  |
| Total persons............................ | 2,116 | ... | ... | $\cdots$ | $\cdots$ | $\ldots$ | $\cdots$... |
| P17B8: Was active-duty military service during any other time? | 2,116 | - | - | - | - | - | - |
| Yes | - | 1.3 | 9.9 | *-8.6 | -9.7 to -7.4 | 93.7 | 84.4 to 104.3 |
| No .................................... | - | 98.7 | 90.1 | * 8.6 | 7.4 to 9.7 | 93.7 | 84.4 to 104.3 |
| L-fold: ${ }^{1}$ |  |  |  |  |  |  |  |
| Total persons............................ . | 2,116 |  | - |  |  |  | 84.4 to 104.3 |

[^16]Table 4. Summary Measures of Response Error for Population Characteristics Estimated From Response Bias Type Reinterview: 1990 Census-Con.

| Census questions and categories | Sample size | Percent in class |  | Net difference rate |  | Index of inconsistency |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Census | CRS | Estimate | 90-percent confidence interval | Estimate | 90-percent confidence interval |
| P17C: In total, how many years of active-duty military service has this person had?..................... |  |  |  |  |  |  |  |
| 1 year | - | 5.7 | 6.3 | -0.5 | -1.7 to 0.6 | 58.8 | 49.4 to 70.0 |
| 2 years | - | 25.8 | 24.6 | 1.2 | -0.5 to 2.9 | 37.2 | 33.3 to 41.6 |
| 3 years | - | 23.7 | 22.7 | 1.0 | -0.8 to 2.8 | 44.1 | 39.8 to 49.0 |
| 4 years | - | 23.5 | 22.3 | 1.1 | -0.5 to 2.7 | 36.1 | 32.1 to 40.6 |
| 5 years | - | 4.0 | 4.9 | -0.9 | -1.9 to 0.2 | 62.8 | 51.7 to 76.2 |
| 6 years | - | 3.8 | 3.6 | 0.1 | -0.7 to 1.0 | 51.9 | 41.2 to 65.5 |
| 7 years | - | 1.2 | 1.3 | -0.1 | -0.6 to 0.5 | 58.3 | 40.0 to 84.8 |
| 8 years | - | 1.6 | 1.7 | -0.1 | -0.7 to 0.6 | 61.0 | 44.5 to 83.7 |
| 9 years | - | ... | ... | ... | ... ... | ... | ... ... |
| 10 years | - | ... | ... | ... | ... ... | ... | ... ... |
| 11 years |  | ... | ... | $\ldots$ | ... ... | ... | ... ... |
| 12 years | - | ... | ... | ... | ... ... | ... | ... ... |
| 13 years | - | ... | ... | ... | ... ... | ... | ... ... |
| 14 years | - | ... | ... | ... | ... ... | ... | ... ... |
| 15 years | - | ... | ... | ... | ... ... | ... | ... ... |
| 16 years | - | ... | ... | $\ldots$ | ... ... | ... | ... ... |
| 17 years | - | ... | ... | ... | ... ... | ... | ... ... |
| 18 years | - | ... | ... | ... | $\ldots$ | ... | ... ... |
| 19 years | - | ... | ... | ... | ... ... | ... | ... ... |
| 20 years | - | 2.2 | 2.3 | -0.1 | -0.7 to 0.4 | 30.7 | 20.9 to 45.1 |
| 21 years | - | $\ldots$ | . | ... | ... ... | ... | ... ... |
| 22 years | - | ... | ... | ... | ... ... | ... | ... ... |
| 23 years | - | ... | ... | ... | ... ... | ... | ... ... |
| 24 years | - | ... | ... | ... | ... ... | ... | ... ... |
| 25 years | - | ... | ... | $\ldots$ | ... ... | ... | ... ... |
| 26 years | - | ... | . | ... | ... ... | ... | ... ... |
| 27 years | - | ... | ... | ... | ... ... | ... | ... ... |
| 28 years | - | $\ldots$ | ... | $\ldots$ | ... ... | ... | ... ... |
| 29 years | - | ... | ... | $\ldots$ | ... ... | ... | ... ... |
| 30 years | - | ... | ... | ... | ... ... | ... | ... ... |
| 42 years | - | ... | . | ... | ... ... | ... | ... ... |
| 43 years | - | ... | ... | ... | ... ... | ... | ... |
| 50 years | - | ... | ... | $\ldots$ | ... ... | ... | ... ... |
| 52 years | - | ... | ... | $\ldots$ | ... ... | ... | ... ... |
| 53 years | - | ... | . | ... | ... ... | $\ldots$ | ... ... |
| 55 years | - | ... | ... | ... | ... ... | ... | ... ... |
| 60 years | - | ... | ... | ... | ... ... | ... | ... ... |
| 62 years | - | ... | ... | ... | ... ... | ... | ... |
| 63 years | - | ... | ... | ... | ... ... | ... | ... ... |
| 70 years | - | ... | $\ldots$ | ... | ... ... | ... | ... ... |
| 74 years | - | ... | ... | ... | ... ... | ... | ... ... |
| 88 years |  | ... | ... | ... | ... | ... | ... ... |
| L-fold: ${ }^{1}$ |  |  |  |  |  |  |  |
| Total persons....................... | 1,343 | - | - | - | - | 45.9 | 43.4 to 48.7 |

[^17]Table 4. Summary Measures of Response Error for Population Characteristics Estimated From Response Bias Type Reinterview: 1990 Census-Con.

| Census questions and categories | Sample size | Percent in class |  | Net difference rate |  | Index of inconsistency |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Census | CRS | Estimate | 90-percent confidence interval | Estimate | 90-percent confidence interval |
| P17C: In total, how many years of active-duty military service has this person had? (Collapsed to 5 categories) | 1,343 | - | - | - | - | - |  |
| Less than 2 years 2 years. | - | 5.7 25.8 | 6.3 24.6 | -0.5 1.2 | -1.7 to 0.6 -0.5 to 2.9 | 58.8 37.2 | 49.4 to 70.0 33.3 to 41.6 |
| 3 to 10 years |  | 60.6 | 58.3 | *2.3 | 0.6 to 4.0 | 29.2 | 26.1 to 32.6 |
| 11 to 19 years ........................... |  | 2.5 | 3.4 | *-0.9 | -1.6 to -0.2 | 39.6 | 29.3 to 53.4 |
| 20 or more years...................... | - | 5.4 | 7.5 | *-2.1 | -2.9 to -1.3 | 25.8 | 20.0 to 33.2 |
| L-fold: ${ }^{1}$. $\ldots$. |  |  |  |  |  |  |  |
| Total persons. | 1,343 | - | - | - | - | 34.8 | 31.9 to 38.1 |
| P18A: Does this person have a physical, mental, or other health condition that has lasted for 6 or more months and which limits the kind or amount of work this person can do at a job? | 15,578 | - | - | - | - | - | - |
| Yes |  | 8.3 | 10.3 | *-2.0 | -2.4 to -1.7 | 43.0 | 40.9 to 45.1 |
| No | - | 91.7 | 89.7 | * 2.0 | 1.7 to 2.4 | 43.0 | 40.9 to 45.1 |
| L-fold: |  |  |  |  |  |  |  |
| Total persons. | 15,578 | 8.3 | 10.3 | *-2.0 | -2.4 to -1.7 | 43.0 | 40.9 to 45.1 |
| Male ${ }^{2}$. | 7,469 | 9.2 | 10.9 | *-1.7 | -2.2 to -1.2 | 39.2 | 36.5 to 42.1 |
| Female ${ }^{2}$ | 8,036 | 7.5 | 9.7 | *-2.2 | -2.7 to -1.7 | 46.9 | 43.8 to 50.2 |
| White ${ }^{2}$ | 13,212 | 8.0 | 10.1 | *-2.0 | -2.4 to -1.6 | 41.4 | 39.2 to 43.7 |
| Black ${ }^{2}$ | 1,352 | 10.9 | 14.0 | *-3.0 | -4.5 to -1.6 | 48.4 | 42.5 to 55.1 |
| Other ${ }^{2}$ | 777 | 7.7 | 9.1 | -1.4 | -3.1 to 0.3 | 54.2 | 44.2 to 66.4 |
| Age 15 to $65^{2}$. | 14,928 | 7.9 | 9.8 | *-2.0 | -2.3 to -1.6 | 42.8 | 40.7 to 45.1 |
| Age 66+ ${ }^{2}$ | 407 | 25.1 | 27.8 | -2.7 | -6.2 to 0.8 | 46.1 | 38.9 to 55.0 |
| P18B: Does this person have a physical, mental, or other health condition that has lasted for 6 or more months and which prevents this person from working at a job?.... | 1,548 | - | - | - |  | - | - |
| Yes | - | 39.7 | 54.6 | *-14.9 | -16.9 to -12.8 | 45.7 | 42.4 to 49.3 |
| No |  | 60.3 | 45.4 | * 14.9 | 12.8 to 16.9 | 45.7 | 42.4 to 49.3 |
| L-fold: |  |  |  |  |  |  |  |
| Total persons.......................... | 1,548 | 39.7 | 54.6 | *-14.9 | -16.9 to -12.8 | 45.7 | 42.4 to 49.3 |
| Male ${ }^{2}$. | 787 | 40.4 | 54.0 | *-13.6 | -16.3 to -10.9 | 41.8 | 37.4 to 46.9 |
| Female ${ }^{2}$. | 752 | 39.2 | 55.5 | *-16.2 | -19.2 to -13.2 | 49.4 | 44.6 to 54.8 |
| White ${ }^{2}$ | 1,283 | 38.8 | 53.8 | *-15.0 | -17.1 to -12.8 | 42.3 | 38.8 to 46.2 |
| Black ${ }^{2}$ | 177 | 45.2 | 59.3 | *-14.1 | -20.9 to -7.3 | 58.8 | 49.2 to 71.5 |
| Other ${ }^{2}$ | 69 | 40.6 | 56.5 | *-15.9 | -28.3 to -3.4 | 76.4 | 61.3 to 99.1 |
|  | 1,416 | 39.1 | 53.5 | *-14.4 | -16.5 to -12.3 | 45.3 | 41.9 to 49.2 |
|  | 109 | 49.5 | 68.8 | *-19.3 | -26.9 to -11.6 | 45.7 | 35.0 to 61.4 |

* Indicates significance at the 10-percent level. - Not applicable. ... Not sufficient data to compute response error measures.
${ }_{2}^{1}$ Demographic subgroups are not reported since the majority of persons reporting are White males.
${ }^{2}$ Results for the category "Yes."

Table 4. Summary Measures of Response Error for Population Characteristics Estimated From Response Bias Type Reinterview: 1990 Census-Con.

| Census questions and categories | Sample size | Percent in class |  | Net difference rate |  | Index of inconsistency |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Census | CRS | Estimate | 90-percent confidence interval | Estimate | 90-percent confidence interval |
| P19A: Because of a health condition that has lasted for 6 or more months, does this person have any difficulty going outside the home alone, for example, to shop or visit a doctor's office?. | 18,417 | - | - | - |  |  |  |
| Yes .. |  | 4.0 | 4.0 | 0.0 | -0.2 to 0.2 | 47.1 | 44.2 to 50.2 |
| No |  | 96.0 | 96.0 | 0.0 | -0.2 to 0.2 | 47.1 | 44.2 to 50.2 |
| L-fold: |  |  |  |  |  |  |  |
| Total persons | 18,417 | 4.0 | 4.0 | 0.0 | -0.2 to 0.2 | 47.1 | 44.2 to 50.2 |
| Male ${ }^{1}$ | 8,596 | 3.0 | 3.0 | 0.0 | -0.3 to 0.3 | 52.2 | 47.2 to 57.9 |
| Female ${ }^{1}$. | 9,730 | 4.9 | 5.0 | 0.0 | -0.4 to 0.3 | 44.4 | 40.9 to 48.2 |
| White ${ }^{1}$ | 15,764 | 3.7 | 3.8 | -0.1 | -0.4 to 0.1 | 43.9 | 40.8 to 47.3 |
| Black ${ }^{1}$ | 1,549 | 6.9 | 6.4 | 0.5 | -0.6 to 1.6 | 58.2 | 49.9 to 68.0 |
| Other ${ }^{1}$ | 830 | 5.2 | 3.5 | * 1.7 | 0.4 to 3.0 | 63.8 | 49.8 to 81.7 |
| Age 15 to $65{ }^{1}$. | 14,795 | 2.1 | 2.1 | 0.0 | -0.2 to 0.2 | 52.3 | 47.7 to 57.3 |
| Age 66+ ${ }^{1}$ | 3,291 | 12.3 | 12.3 | 0.1 | -0.9 to 1.0 | 46.7 | 42.9 to 50.9 |
| P19B: Because of a health condition that has lasted for 6 or more months, does this person have any difficulty taking care of his or her own personal needs, such as bathing, dressing, or getting around inside the house? | 18,131 | - | - | - | - | - | - |
| Yes. |  | 4.2 | 2.1 | * 2.1 | 1.8 to 2.4 | 73.6 | 69.5 to 78.0 |
| No. | - | 95.8 | 97.9 | *-2.1 | -2.4 to -1.8 | 73.6 | 69.5 to 78.0 |
| L-fold: |  |  |  |  |  |  |  |
| Total persons. | 18,131 | 4.2 | 2.1 | * 2.1 | 1.8 to 2.4 | 73.6 | 69.5 to 78.0 |
| Male ${ }^{1}$ | 8,444 | 3.8 | 2.0 | * 1.8 | 1.4 to 2.2 | 75.1 | 68.9 to 82.0 |
| Female ${ }^{1}$. | 9,596 | 4.5 | 2.2 | * 2.4 | 2.0 to 2.7 | 72.7 | 67.3 to 78.6 |
| White ${ }^{1}$ | 15,539 | 3.4 | 1.9 | * 1.5 | 1.2 to 1.8 | 71.6 | 66.9 to 76.7 |
| Black ${ }^{1}$ | 1,525 | 10.1 | 3.7 | * 6.4 | 5.1 to 7.8 | 80.5 | 71.3 to 91.1 |
| Other ${ }^{1}$ | 801 | 7.2 | 2.1 | * 5.1 | 3.5 to 6.7 | 81.3 | 65.7 to 100.7 |
| Age 15 to $65^{1}$. | 14,541 | 2.9 | 1.4 | * 1.6 | 1.3 to 1.8 | 78.0 | 72.4 to 84.1 |
| Age 66+ ${ }^{1}$ | 3,268 | 9.2 | 5.1 | * 4.1 | 3.2 to 5.0 | 70.6 | 64.3 to 77.5 |
| * Indicates significance at the 10-percent level. <br> ${ }^{1}$ Results for the category "Yes." |  | icable. | ... Not sufficient data to compute response error measures. |  |  |  |  |

Table 4. Summary Measures of Response Error for Population Characteristics Estimated From Response Bias Type Reinterview: 1990 Census-Con.

| Census questions and categories | Sample size | Percent in class |  | Net difference rate |  | Index of inconsistency |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Census | CRS | Estimate | 90-percent confidence interval | Estimate | 90-percent confidence interval |
| P30: Was this person?.............. | 11,739 |  |  |  |  |  |  |
| Employee of a PRIVATE FOR PROFIT company or business or of an individual, for wages, salary, or commissions | - | 67.2 | 66.3 | * 0.9 | 0.4 to 1.4 | 22.6 | 21.6 to 23.7 |
| Employee of a PRIVATE NOT-FORPROFIT, tax-exempt, or charitable organization |  | 6.2 | 6.2 | 0.0 | -0.3 to 0.4 | 37.3 | 34.7 to 40.1 |
| Local government employee ............. | - | 6.8 | 6.9 | -0.1 | -0.4 to 0.2 | 27.8 | 25.7 to 30.1 |
| State government employee | - | 4.9 | 5.2 | *-0.3 | -0.6 to -0.1 | 28.7 | 26.2 to 31.5 |
| Federal government employee ........... |  | 3.9 | 3.9 | 0.0 | -0.2 to 0.1 | 13.2 | 11.3 to 15.3 |
| Self-employed in own NOT INCORPORATED business, professional practice, or farm | - | 7.5 | 8.1 | *-0.7 | -1.0 to -0.4 | 30.5 | 28.3 to 32.7 |
| Self-employed in own INCORPORATED business, professional practice, or farm .. |  | 2.9 | 2.9 | 0.0 | -0.2 to 0.3 | 45.9 | 41.8 to 50.4 |
| Working without pay in family business or farm |  | 0.6 | 0.4 | 0.2 | 0.0 to 0.3 | 77.6 | 65.1 to 92.4 |
| L-fold: |  |  |  |  |  |  |  |
| Total persons | 11,739 | - | - | - | - | 27.5 | 26.5 to 28.5 |
| Male . | 6,301 | - | - | - | - | 24.8 | 23.5 to 26.2 |
| Female. White | 5,391 | - | - | - | - | 30.6 26.1 | 29.1 to 32.1 25.1 to 27.2 |
| Black | 833 | - | - | - | - | 39.9 | 35.9 to 44.5 |
| Other | 533 | - | - | - | - | 33.9 | 29.1 to 39.8 |
| P30: Was this person? (reinterview recode) | 11,806 | - | - | - | - | - | - |
| Employee of a PRIVATE FOR PROFIT company or business or of an individual, for wages, salary, or commissions ...... | - | 67.2 | 66.3 | * 0.9 | 0.4 to 1.4 | 22.9 | 21.9 to 24.0 |
| Employee of a PRIVATE NOT-FORPROFIT, tax-exempt, or charitable organization |  | 6.3 | 6.0 | 0.3 | 0.0 to 0.6 | 37.9 | 35.3 to 40.8 |
| Local government employee.............. | - | 6.8 | 7.3 | *-0.4 | -0.7 to -0.1 | 27.7 | 25.6 to 30.0 |
| State government employee. | - | 4.9 | 5.1 | -0.2 | -0.5 to 0.0 | 29.1 | 26.6 to 31.9 |
| Federal government employee. | - | 3.8 | 3.9 | -0.1 | -0.2 to 0.1 | 13.4 | 11.5 to 15.6 |
| Self-employed in own NOT INCORPORATED business, professional practice, or farm | - | 7.4 | 8.1 | *-0.7 | -1.0 to -0.4 | 30.8 | 28.6 to 33.1 |
| Self-employed in own INCORPORATED business, professional practice, or farm. . | - | 2.9 | 2.9 | 0.0 | -0.2 to 0.3 | 46.3 | 42.2 to 50.8 |
| Working without pay in family business or farm | - | 0.6 | 0.4 | 0.2 | 0.0 to 0.3 | 76.2 | 64.0 to 90.8 |
| L-fold: |  |  |  |  |  |  |  |
| Total persons... | 11,806 | - | - | - | - | 27.8 | 26.8 to 28.8 |
| Male . . . | 6,331 | - | - | - | - | 25.2 | 23.9 to 26.6 |
| Female. | 5,428 | - | - | - | - | 30.7 | 29.3 to 32.3 |
| White . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . | 10,275 | - | - | - | - | 26.4 | 25.4 to 27.5 |
| Black | 839 | - | - | - | - | 40.5 | 36.4 to 45.1 |
| Other . . . . . . . . . . . . . . . . . . . . . . . . . . . | 537 | - |  | - | - | 33.7 | 28.9 to 39.5 |

[^18]Table 4. Summary Measures of Response Error for Population Characteristics Estimated From Response Bias Type Reinterview: 1990 Census-Con.


# APPENDIX A. <br> Facsimiles of the Content Reinterview Questionnaire and the 1990 Census of the United States With Respondent Instructions 









\begin{tabular}{|c|c|c|}
\hline \multirow[t]{3}{*}{\begin{tabular}{l}
Section IV - HOUSEHOLD ROSTER \\
Transcribe the person names from the label in person number order to the columns at the right.
\end{tabular}} \& PERSON 1 \& PERSON 2 \\
\hline \& \begin{tabular}{|l|l}
\hline Last name \& \begin{tabular}{l} 
Person No. \\
from label
\end{tabular} \\
\hline
\end{tabular} \& \begin{tabular}{|l|l} 
Last name \& \begin{tabular}{l} 
Person No. \\
from label
\end{tabular}
\end{tabular} \\
\hline \& First name Middle initial \& First name Middle initial \\
\hline \begin{tabular}{l}
1 d . Does . . still live here? \\
If NONE of the persons live here, END INTERVIEW and complete Sections II and III.
\end{tabular} \& 1 Still lives here - Ask \(1 e\)
No longer lives here (Moved, dead, unknown, etc.) - Skip to next person \& 
Still lives here - Ask \(1 e\)

No longer lives here (Moved, dead, unknown, etc.) - Skip to next person <br>

\hline | e. Is . . . under 15 years of age? |
| :--- |
| If "Don't know," say - |
| Please give me your best estimate. | \& \(\left.\begin{array}{l}1 \square Yes <br>

2 \square No\end{array}\right\}\)| Go to 1d for next person |
| :--- |
| listed. If all complete, skip |
| to Check Item B. | \& \(\left.\begin{array}{l}1 \square Yes <br>

2 \square No\end{array}\right\}\)| Go to 1d for next person |
| :--- |
| listed. If all complete, skip |
| to Check Item B. | <br>

\hline CHECK ITEM B \& \multirow[b]{2}{*}{| Self response |
| :--- |
| 2 Proxy - Print proxy's person number $\rightarrow 3$ |} \& \multirow[t]{2}{*}{| Self response |
| :--- |
| $2 \square$ Proxy - Print proxy's person number $\rightarrow 3$ |} <br>

\hline Continue in the appropriate column for the current respondent. Mark (X) ONE box to indicate the status of the respondent. \& \& <br>
\hline 2. Is ... male or female? \& $1 \square$ Male $\quad 2 \square$ Female \& $1 \square$ Male $2 \square$ Female <br>

\hline | 3a. How old is . . . ? |
| :--- |
| If "Don't know," say Please give me your best estimate. | \& Age \& Age <br>

\hline \& \& <br>
\hline 10. At any time from February 1, 1990 to April 1, 1990, did . . . attend regular school or college? Include only nursery school, kindergarten, elementary school, and schooling which leads to a high school diploma or college degree. If "Yes," ask - Public or private? \& No, did not attend during this period
Yes, public school, public college
Yes, private school, private college \& No, did not attend during this period
Yes, public school, public college
$\square$ Yes, private school, private college <br>

\hline | 11. As of April 1, 1990, what was the highest grade (or year) of regular school . . . had ever ATTENDED? |
| :--- |
| If . . . did attend school at any time from February 1, 1990 to April 1, 1990, mark ( $X$ ) ONE box for the grade . . . attended during this period. | \& | 40 Never attended school Skip to Check Item C |
| :--- |
| 41 Nursery school |
| 42 $\square$ Kindergarten |
| Elementary or High School (Grade) | \& | 40 $\square$ Never attended school Skip to Check Item C |
| :--- |
| 41 $\square$ |
| 42 $\square$ Kindergarten |
| Elementary or High School (Grade) | <br>

\hline If high school was finished by an equivalency test (GED) and . . . did not attend college, mark (X)"12." \& $$
\begin{array}{llllll}
1 & 2 & 3 & 4 & 5 & 6 \\
\square & \square & \square & \square & \square & \square \\
01 & 02 & 03 & 04 & 05 & 06 \\
7 & 8 & 9 & 10 & 11 & 12 \\
\square & \square & \square & \square & \square & \square \\
07 & 08 & 09 & 10 & 11 & 12
\end{array}
$$ \& \[

$$
\begin{array}{llllll}
1 & 2 & 3 & 4 & 5 & 6 \\
\square & \square & \square & \square & \square & \square \\
01 & 02 & 03 & 04 & 05 & 06 \\
7 & 8 & 9 & 10 & 11 & 12 \\
\square & \square & \square & \square & \square & \square \\
07 & \square & 09 & 10 & 11 & 12
\end{array}
$$
\] <br>

\hline \&  \&  <br>
\hline 12. As of April 1, 1990, had ... finished the highest grade (or year) attended? \& No, was attending this grade (or year)

$\square$ Yes, had finished this grade (or year) \& $1 \square$
No, was attending this grade (or year)

No, had not finished this grade (or year) $3 \square$ $\square$ Yes, had finished this grade (or year) <br>

\hline | CHECK ITEM $\mathbf{C}$ |
| :--- |
| Refer to age (question 3a) and highest grade attended (question 11 ). | \& | $1 \square$ |
| :--- |
| Age is less than 15 years - Skip to 14a |
| Age is 15 years or older and . . . |
| 2 Highest grade attended is the seventh grade or less - Skip to 13c |
| 3 Highest grade attended is eighth grade or higher - Continue with 13a | \& | Age is less than 15 years - Skip to |
| :--- |
| Age is 15 years or older and . . . $\square$ Highest grade attended is the seventh grade or less - Skip to 13 c Highest grade attended is eighth grade or higher - Continue with 13a | <br>

\hline 13a. As of April 1, 1990, how much school had . . . COMPLETED? \& \multirow[t]{4}{*}{\begin{tabular}{l}
1 Less than a high school degree or diploma
High school graduate or the equivalent (For example: GED)
Some college but no degree
Associate degree in college
Bachelor's degree \\
(For example: BA, AB, BS) \\
6 Master's degree (For example: MA, MS, MEng, MEd, MSW, MBA) \\
7 Professional school degree (For example: MD, DDS, DVM, LLB, JD) \\
8 Doctorate degree (For example: PhD, EdD) \\
9 Other - Specify \(\bar{Z}\)
\end{tabular}} \& \multirow[t]{3}{*}{\begin{tabular}{l}
1 Less than a high school degree or diploma

gh school graduate or the equivalent (For example: GED)
Some college but no degree
Associate degree in college
Bachelor's degree (For example: BA, AB, BS)
Master's degree (For example: MA, MS, MEng, MEd, MSW, MBA)
Professional school degree (For example: MD, DDS, DVM, LLB, JD) <br>
$8 \square$ Doctorate degree (For example: PhD, EdD)

Other - Specify $\bar{\not}$
\end{tabular}} <br>

\hline Read each category and mark ( $X$ ) ONE box for the highest level COMPLETED or degree RECEIVED. \& \& <br>
\hline Mark 'Other" and print the degree only if respondent cannot choose a category. \& \& <br>
\hline \& \& If Associate degree, continue with 13 b . Otherwise, skip to 13 c . <br>

\hline b. Was this Associate degree in an occupational program or in an academic program? \& | Occupational program |
| :--- |
| 2 Academic program | \& Occupational program

Academic program <br>

\hline c- Did . . . complete high school by graduating, or by taking an equivalency test of some kind (for example, a GED exam)? \& | Graduated from high school Took GED or equivalent $\square$ |
| :--- |
| $3 \square$ Did not complete high school | \& 

Graduated from high school
Took GED or equivalent
$\qquad$ Did not complete high school <br>
\hline
\end{tabular}







FORM D-1010 (7-25-90)




| PERSON 3 | PERSON 4 | PERSON 5 |
| :---: | :---: | :---: |
| Last name Person No. <br> from label | Last name $\quad$Person No. <br> from label | Last name $\quad$Person No. <br> from label |
| First name Middle initial | First name Middle initial | First name Middle initial |
| Still lives here - Ask $1 e$ No longer lives here (Moved, dead, unknown, etc.) - Skip to next person | Still lives here - Ask $1 e$ No longer lives here (Moved, dead, unknown, etc.) - Skip to next person | Still lives here - Ask $1 e$ No longer lives here (Moved, dead, unknown, etc.) - Skip to next person |
| $\left.\begin{array}{l} 1 \square \text { Yes } \\ 2 \square \text { No } \end{array}\right\} \begin{aligned} & \text { Go to 1d for next person } \\ & \text { listed. If all complete, skip } \\ & \text { to Check Item B. } \end{aligned}$ | $\left.\begin{array}{l} 1 \square \text { Yes } \\ 2 \square \text { No } \end{array}\right\} \begin{aligned} & \text { Go to 1d for next person } \\ & \text { listed. If all complete, skip } \\ & \text { to Check Item B. } \end{aligned}$ | $\left.\begin{array}{l} 1 \square \text { Yes } \\ 2 \square \text { No } \end{array}\right\} \begin{aligned} & \text { Go to 1d for next person } \\ & \text { listed. If all complete, skip } \\ & \text { to Check Item B. } \end{aligned}$ |
| 1 $\square$ Self response <br> 2 Proxy - Print proxy's person number $\rightarrow 3$ $\square$ | 1. Self response <br> 2 Proxy - Print proxy's person number $\rightarrow 3$ $\square$ | 1 $\square$ Self response Proxy - Print proxy's person number $\rightarrow 3$ $\square$ |
| $1 \square$ Male $\quad 2 \square$ Female | $1 \square$ Male $\quad 2 \square$ Female | $1 \square$ Male $2 \square$ Female |
| Age | Age | Age |
|  |  |  |
| 1 Yes - Mark 28a, 28b, and 28c without asking $2 \square \text { No - Ask 28a }$ | $\begin{aligned} & 1 \square \text { Yes - Mark 28a, 28b, and } \\ & 28 c \text { without asking } \\ & 2 \square \text { No - Ask 28a } \end{aligned}$ | $\begin{aligned} & 1 \square \text { Yes - Mark 28a, 28b, and } \\ & 28 c \text { without asking } \\ & 2 \square \text { No - Ask 28a } \end{aligned}$ |
| $\square$ Yes No - Skip to 29a | $\begin{aligned} & 1 \square \text { Yes } \\ & 2 \square \text { No - Skip to 29a } \end{aligned}$ | $\begin{aligned} & 1 \square \text { Yes } \\ & 2 \square \text { No - Skip to 29a } \end{aligned}$ |
| $\begin{aligned} & 1 \square \mathrm{Yes} \\ & 2 \square \mathrm{No} \end{aligned}$ | $\begin{aligned} & 1 \square \text { Yes } \\ & 2 \square \mathrm{No} \end{aligned}$ | $\begin{aligned} & 1 \square \mathrm{Yes} \\ & 2 \square \mathrm{No} \end{aligned}$ |
| $\square$ Yes No Self respondent | Yes No Self respondent | Yes No Self respondent |
| $\square$ Yes <br> 2 $\square$ No - Skip to 30 | $\begin{aligned} & 1 \square \text { Yes } \\ & 2 \square \text { No - Skip to } 30 \end{aligned}$ | $\begin{aligned} & 1 \square \text { Yes } \\ & 2 \square \text { No - Skip to } 30 \end{aligned}$ |
| $\begin{aligned} & 1 \square \mathrm{Yes} \\ & 2 \square \mathrm{No} \end{aligned}$ | $\begin{aligned} & 1 \square \mathrm{Yes} \\ & \mathbf{2} \square \mathrm{No} \end{aligned}$ | $\begin{aligned} & 1 \square \text { Yes } \\ & 2 \square \text { No } \end{aligned}$ |
| $\begin{aligned} & 1 \square \text { Yes } \\ & 2 \square \text { No }- \text { Skip to } 31 a \end{aligned}$ | $\begin{aligned} & 1 \square \text { Yes } \\ & 2 \square \text { No - Skip to } 31 a \end{aligned}$ | $\begin{aligned} & 1 \square \text { Yes } \\ & 2 \square \text { No - Skip to } 31 a \end{aligned}$ |
| $\begin{aligned} & 1 \square \mathrm{Yes} \\ & 2 \square \mathrm{No} \end{aligned}$ | $\begin{aligned} & 1 \square \text { Yes } \\ & 2 \square \text { No } \end{aligned}$ | $\begin{aligned} & 1 \square \mathrm{Yes} \\ & 2 \square \mathrm{No} \end{aligned}$ |
| $\begin{aligned} & 1 \square \mathrm{Yes} \\ & 2 \square \mathrm{No} \end{aligned}$ | $\begin{aligned} & 1 \square \text { Yes } \\ & 2 \square \mathrm{No} \end{aligned}$ | $\begin{aligned} & 1 \square \mathrm{Yes} \\ & 2 \square \mathrm{No} \end{aligned}$ |
| $\begin{aligned} & 1 \square \text { Yes } \\ & 2 \square \text { No - Skip to 32a } \end{aligned}$ | $\begin{aligned} & 1 \square \text { Yes } \\ & 2 \square \text { No Skip to 32a } \end{aligned}$ | $\begin{aligned} & 1 \square \text { Yes } \\ & 2 \square \text { No - Skip to 32a } \end{aligned}$ |
| $\begin{aligned} & 1 \square \mathrm{Yes} \\ & 2 \square \mathrm{No} \end{aligned}$ | $\begin{aligned} & 1 \square \mathrm{Yes} \\ & 2 \square \mathrm{No} \end{aligned}$ | $\begin{aligned} & 1 \square \text { Yes } \\ & 2 \square \text { No } \end{aligned}$ |
| $\begin{aligned} & 1 \square \mathrm{Yes} \\ & 2 \square \mathrm{No} \end{aligned}$ | $\begin{aligned} & 1 \square \mathrm{Yes} \\ & 2 \square \mathrm{No} \end{aligned}$ | $\begin{aligned} & 1 \square \mathrm{Yes} \\ & 2 \square \mathrm{No} \end{aligned}$ |






## CHECK ITEM K

Have questions $\mathrm{H} 1-\mathrm{H} 10$ been answered?
If ' Yes,' ${ }^{\prime}$ skip to Check Item M
If "No," print respondent's
person number
and continue with H 1 .

The next few questions are about . . .'s living quarters.
H1. Are your living quarters in:
Read each category.


H2a. Is this (house/apartment) -
Read each category and mark (X) ONE box.
1Owned or being bought by you? - Skip to H2bOwned or being bought by someone else living in this household? - Skip to H2bRented for cash rent? - Skip to H3a
$4 \square$
Occupied without payment of cash rent? If "Yes," ask - Do you occupy this (house/apartment) without payment of cash rent because it is provided -
Read each category and mark (X) ONE box.As military living quarters?As partial payment for services rendered such as watchman, janitor, tenant farmer, etc.?

Skip to H6aBy a friend or relative?Free of charge for some other reason? Print reason


H2b. While some homes are owned free and clear, many are owned with a mortgage or a similar type of loan. Is this home owned free and clear?Yes, owned free and clear - Skip to H6a
No - Ask - Is it owned with any of the following?
Read each category and mark (X) each box for which the answer is "Yes."A mortgage? A contract to purchase? A deed of trust or trust deed?

Skip to H6a A home equity line of credit? Some other loan secured by the house or apartment?

H3a. What is the monthly contract rent?

b. Does the Federal, State, or local government pay part of the rent?
1Yes - Ask - Is this payment made to the householder or to the owner?HouseholderOwner$\left.\begin{array}{l}\text { No } \\ \text { Don't know }\end{array}\right\}$
c. Did you include this amount in the monthly rent you just reported?Yes - Skip to H3eNo
d. What is the amount of monthly rent paid by the government?

e. Does someone living outside this (house/apartment) other than the government pay part of the rent?
Yes - Ask - Is this payment made to the householder or to the owner?
$2 \square$ Householder
$\qquad$OwnerNo $\left.\begin{array}{l}\text { Don't know }\end{array}\right\}$ Skip to H4a
f. Did you include this amount in the monthly rent you just reported?Yes - Skip to H4aNo
g. What is the amount of monthly rent paid by someone living outside this (house/apartment)?

$0 \square$ Don't know


## Your Guide for the 1990 U.S. Census Form

This guide gives helpful information on filling out your census form. If you need more help, call the local U.S. census office. The telephone number is on the cover of the questionnaire. After you have filled out your form, please return it in the envelope we have provided.

On the inside

## How

to fill out your census form 2
Example 2

Your
answers are confidential
2
Instructions
for the census questions
$\mathbf{3 - 1 1}$

What
the census is about 12

## Why

the census asks certain questions12

CENSUS '90 U.S. DEPARTMENT OF COMMERCE BUREAU OF THE CENSUS

## How to Fill Out Your Census Form

Please use a black lead pencil only. Black lead pencil is better to use than ballpoint or other pens. Most questions ask you to fill in the circle, or to print the information. See Example below.

Make sure you print answers for everyone in this household. If someone in the household, such as a roomer or boarder, does not want to give you all the information for the form, print at least the person's name and answer questions 2 and 3 . A census taker will call to get the other information directly from the person.

There may be a question you cannot answer exactly. For example, you might not know the age of an elderly person or the price for which your house would sell. Ask someone else in your household; if no one knows, give your best estimate.

Instructions for individual questions begin on page 3 of this guide. They will help you to understand the questions and answer them correctly.

If you have a question about filling out the census form or need assistance, call the local U.S. census office. The telephone number is given on the cover of the questionnaire.

If you do not mail back your census form, a census taker will be sent out to assist you. But it saves time and your taxpayer dollars if you fill out the form yourself and mail it back.

## Example



## Your Answers Are Confidential

The law authorizing the census (Title 13, U.S. Code) also provides that your answers are confidential. No one except census workers may see your completed form and they can be fined and/or imprisoned for any disclosure of your answers. Only after 72 years can your individual census form become available to other government agencies (whether federal, state, county, or local). Until then, no other person or business can see your individual report.

The same law that protects the confidentiality of your answers requires that you provide the information asked in this census to the best of your knowledge.

Information collected from the decennial census is used for a variety of statistical purposes. Census information is used to find out where funding is most needed for schools, health centers, highways, and other services. Census results are used by members of public and private groups--including community organizations--and by businesses and industries, as well as by agencies at all levels of government.

## Instructions for Questions 1a through 7

1a. List everyone who lives at this address in question 1a. If you are not sure if you should list a person, see the rules on page 1 of the census form. If you are still not sure, answer as best you can and fill in "Yes" for question H1a or Hlb , as appropriate.
If there are more than seven people in your household, please list all the persons in question 1a, complete the form for seven people, and mail it back in the enclosed envelope. A census taker will call to obtain the information for the additional persons.
b. If everyone listed in question la usually lives at another address(es), print the address(es) in 1 b .
2. Fill one circle to show how each person is related to the person in column 1 .

If Other relative of the person in column 1 , print the exact relationship such as son-in-law, daughter-in-law, grandparent, nephew, niece, mother-in-law, father-in-law, cousin, and so on.
If the Stepson/stepdaughter of the person in column 1 also has been legally adopted by the person in column 1, mark Stepson/stepdaughter but do not mark Natural-born or adopted son/daughter. In other words, Stepson/stepdaughter takes precedence over Adopted son/daughter.
4. Fill ONE circle for the race each person considers himself/herself to be. If you fill the Indian (Amer.) circle, print the name of the tribe or tribes in which the person is enrolled. If the person is not enrolled in a tribe, print the name of the principal tribe(s).
If you fill the Other API circle [under Asian or Pacific Islander (API)], only print the name of the group to which the person belongs. For example, the Other API category includes persons who identify as Burmese, Fijian, Hmong, Indonesian, Laotian, Bangladeshi, Pakistani, Tongan, Thai, Cambodian, Sri Lankan, and so on.
If you fill the $\mathbf{O}$ ther race circle, be sure to print the name of the race.
If the person considers himself/herself to be White, Black or Negro,
Eskimo or Aleut, fill one circle only. Please do not print the race in the boxes.
The Black or Negro category also includes persons who identify as African-American, Afro-American, Haitian, Jamaican, West Indian, Nigerian, and so on.
All persons, regardless of citizenship status, should answer this question.
5. Print age at last birthday in the space provided (print " 00 " for babies less than 1 year old). Fill in the matching circle below each box. Also, print year of birth in the space provided. Then fill in the matching circle below each box. For an illustration of how to complete question 5 , see the Example on page 2 of this guide.
6. If the person's only marriage was annulled, mark Never married.
7. A person is of Spanish/Hispanic origin if the person's origin (ancestry) is Mexican, Mexican-Am., Chicano, Puerto Rican, Cuban, Argentinean, Colombian, Costa Rican, Dominican, Ecuadoran, Guatemalan, Honduran, Nicaraguan, Peruvian, Salvadoran, from other Spanish-speaking countries of the Caribbean or Central or South America, or from Spain.
If you fill the Yes, other Spanish/Hispanic circle, print one group.
A person who is not of Spanish/Hispanic origin should answer this question by filling the No (not Spanish/Hispanic) circle. Note that the term "Mexican-Am." refers only to persons of Mexican origin or ancestry.
All persons, regardless of citizenship status, should answer this question.

## Instructions for

Question H1a through H1b
H1a. Refer to the list of persons you entered in question la on page 1 . If you left anyone out of your list because you were not sure if the person $(s)$ should be listed, answer question Hla as Yes. Then enter the name(s) and reason(s) why you did not list the person(s) on the lines provided. Otherwise, answer question Hla as No.
b. If you included anyone on your list even though you were not sure that you should list the person(s), answer question H 1 b as Yes. Then enter the name(s) and reason $(s)$ why you listed the person(s) on the lines provided. Otherwise, answer question Hlb as No .

## Instructions for Questions H2 through H7b

H2. Fill only one circle.
Count all occupied and vacant apartments in the house or building. Do not count stores or office space.

Detached means there is open space on all sides, or the house is joined only to a shed or garage. Attached means that the house is joined to another house or building by at least one wall that goes from ground to roof. An example of A one-family house attached to one or more houses is a house in a row of houses attached to one another.
A mobile home or trailer that has had one or more rooms added or built onto it should be counted as a one-family detached house; a porch or shed is not considered a room.

H3. Count only whole rooms in your house, apartment, or mobile home used for living purposes, such as living rooms, dining rooms, kitchens, bedrooms, finished recreation rooms, family rooms, etc. Do not count bathrooms, kitchenettes, strip or pullman kitchens, utility rooms, foyers, halls, half-rooms, porches, balconies, unfinished attics, unfinished basements, or other unfinished space used for storage.

H4. Housing is owned if the owner or co-owner lives in it. Mark $O$ wned by you or someone in this household with a mortgage or loan if the house, apartment, or mobile home is mortgaged or there is a contract to purchase. Mark Owned by you or someone in this household free and clear (without a mortgage) if there is no mortgage or other debt. If the house, apartment, or mobile home is owned but the land is rented, mark this question to show the status of the house, apartment, or mobile home.

Mark Rented for cash rent if any money rent is paid, even if the rent is paid by persons who are not members of your household, or by a federal, state, or local government agency.
Mark Occupied without payment of cash rent if the unit is not owned or being bought by the occupants and if money rent is not paid or contracted. The unit may be owned by friends or relatives who live elsewhere and who allow occupancy without charge. A house or apartment may be provided as part of wages or salary. Examples are: caretaker's or janitor's house or apartment; parsonages; tenant farmer or sharecropper houses for which the occupants do not pay cash rent; or military housing.
H5a. Answer H 5 a and H 5 b if you live in a one-family house or a mobile home; include only land that you own or rent.
b. A business is easily recognized from the outside; for example, a grocery store or barber shop. A medical office is a doctor's or dentist's office regularly visited by patients.
H6. If this is a house, include the value of the house, the land it is on, and any other structures on the same property. If the house is owned but the land is rented, estimate the combined value of the house and the land. If this is a condominium unit, estimate the value for your house or apartment including your share of the common elements. If this is a mobile home, include the value of the mobile home and the value of the land. If you rent the land, estimate the value of the rented land and add it to the value of the mobile home.

H7a. Report the rent agreed to or contracted for, even if the rent for your house, apartment, or mobile home is unpaid or paid by someone else.

| If rent is paid: | Multiply rent by: | If r | y |
| :---: | :---: | :---: | :---: |
| By the day | 30 | 4 times a year |  |
| By the week |  | 2 times a year |  |
| Every other | 2 | Once a year |  |

b. Answer Yes if meals are included in the monthly rent payment, or you must contract for meals or a meal plan in order to live in this building.

## Instructions for Questions H8 through H19b

H8. The person listed in column 1 refers to the person listed in the first column on page 2 . This person should be the household member (or one of the members) in whose name the house, apartment, or mobile home is owned, being bought, or rented. If there is no such person, any adult household member can be the person in column 1. Mark when this person last moved into this house, apartment, or mobile home.
H9. Include all rooms intended to be used as bedrooms in this house, apartment, or mobile home, even if they are currently being used for other purposes.
H10. Mark Yes, have all three facilities if you have all the facilities mentioned; all facilities must be in your house, apartment, or mobile home, but not necessarily in the same room. Consider that you have hot water even if you have it only part of the time. Mark No if any of the three facilities is not present.

H11. The kitchen sink, stove, and refrigerator must be located in the building but do not have to be in the same room. Portable cooking equipment is not considered as a range or cookstove.

H12. Answer Yes only if the telephone is located in your house, apartment, or mobile home.

H13. Count company cars (including police cars and taxicabs) and company trucks of one-ton capacity or less that are regularly kept at home and used by household members for nonbusiness purposes. Do not count cars or trucks permanently out of working order.

H14. Fill the circle for the fuel used most to heat your house, apartment, or mobile home. In buildings containing more than one apartment you may obtain this information from the owner, manager, or janitor.
Solar energy is provided by a system that collects, stores, and distributes heat from the sun. Other fuel includes any fuel not separately listed; for example, purchased steam, fuel briquettes, waste material, etc.
H15. If a well provides water for five or more houses, apartments, or mobile homes, mark A public system. If a well provides water for four or fewer houses, apartments, or mobile homes, fill one of the circles for Individual well.
Drilled wells, or small diameter wells, are usually less than $11 / 2$ feet in diameter. Dug wells are generally hand dug and are larger than $11 / 2$ feet wide.

H16. A public sewer may be operated by a government body or private organization. A septic tank or cesspool is an underground tank or pit used for disposal of sewage.
H17. Fill the circle corresponding to the period in which the original construction was completed, not the time of any later remodeling, additions, or conversions. In buildings containing more than one apartment, the owner, manager, or janitor may be of help in determining when the building was built.
If you live in a houseboat or a trailer or mobile home, fill the circle corresponding to the model year in which it was manufactured.
If you do not know the period when the building was first constructed, fill the circle for Don't know.
H18. A condominium is a type of ownership in which the apartments, houses, or mobile homes in a building or development are individually owned, but the common areas, such as lobbies, halls, etc., are jointly owned. Cooperative occupants should mark No.

H19a. Answer H19a and H 19 b if you live in a one-family house or mobile home.
b. This property is the acreage on which the house is located; it includes adjoining land you rent for your use. Report sales made in 1989 from this property by you or previous occupants.

## Instructions for

## Questions H20 through H26

H20. If your house or apartment is rented, enter the costs for utilities and fuels only if you pay for them in addition to the rent entered in H7a.
If you live in a condominium, enter the costs for utilities and fuels only if you pay for them in addition to your condominium fee.
If your fuel and utility costs are already included in your rent or condominium fee, fill the Included in rent or in condominium fee circle. Do not enter any dollar amounts.
The amounts to be reported should be the total amount for the past 12 months. Estimate as closely as possible when exact costs are not known. If you have lived in this house or apartment less than 1 year, estimate the yearly cost. Report amounts even if your bills are unpaid or paid by someone else. If the bills include utilities or fuel used also by another apartment or a business establishment, estimate the amounts for your own house or apartment. If gas and electricity are billed together, enter the combined amount on the electricity line and bracket [ ] the two utilities.
H21. Report taxes for all taxing jurisdictions (city or town, county, state, school district, etc.) even if they are included in your mortgage payment, not yet paid or paid by someone else, or are delinquent. Do not include taxes past due from previous years.
H22. When premiums are paid on other than a yearly basis, convert to a yearly basis. Enter the yearly amount even if no payment was made during the past 12 months.
H23a. The word mortgage is used as a general term to indicate all types of loans that are secured by real estate.
b. Enter a monthly amount even if it is unpaid or paid by someone else. If the amount is paid on some other periodic basis, see the instructions for H 7 a to change it to a monthly amount. Include payments on first mortgages and contracts to purchase only. Payments for second or junior mortgages and home equity loans should be reported in H24b.
H24a. A second or junior mortgage or home equity loan is secured by real estate.
b. Enter a monthly amount even if it is unpaid or paid by someone else. If the amount is paid on some other periodic basis, see instructions for H7a and change it to a monthly amount. Include payments on all second or junior mortgages or home equity loans.
H25. A condominium fee is normally assessed by the condominium owners' association for the purpose of improving and maintaining the common areas. Enter a monthly amount even if it is unpaid or paid by someone else. If the amount is paid on some other periodic basis, see the instructions for H7a on how to change it to a monthly amount.
H26. Report amount even if your bills are unpaid or paid by someone else. Include payments for personal property taxes, land or site rent, registration fees and license fees. Do not include real estate taxes already reported in H21.The amount to be reported should be the total amount for an entire 12month billing period even if made in two or more installments. Estimate as closely as possible when exact costs are not known.

## Instructions for

## Question 8

8. For persons born in the United States:

Print the name of the State in which this person was born. If the person was born in Washington, D.C., print District of Columbia. If the person was born in a U.S. teritory or commonwealth, print Puerto Rico, U.S. Virgin Islands, Guam, American Samoa, or Northern Marianas.
For persons born outside the United States:
Print the name of the foreign country or area where the person was born. Use current boundaries, not boundaries at the time of the person's birth. Specify whether Northern Ireland or the Republic of Ireland (Eire); East or West Germany; North or South Korea; England, Scotland, or Wales (not Great Britain or United Kingdom). Specify the particular country or island in the Caribbean (not, for example, West Indies).

## Instructions for <br> Questions 9 through 13

9. A person should fill the Yes, U.S. citizen by naturalization circle only if he/she has completed the naturalization process and is now a United States citizen. If the person was born in Puerto Rico, Guam, the U.S. Virgin Islands, or Northern Marianas, he/she should fill the Yes, born in Puerto Rico, Guam, the U.S. Virgin Islands, or Northern Marianas circle. If the person was born outside the United States (or at sea) and has at least one American parent, he/she should fill the Yes, born abroad of American parent or parents circle.
10. If the person has entered the United States (that is, the 50 states and the District of Columbia) more than once, fill the circle for the latest year he/she came to stay.
11. Do not include enrollment in a trade or business school, company training, or tutoring unless the course would be accepted for credit at a regular elementary school, high school, or college.

A public school is any school or college that is controlled and supported primarily by a local, county, State, or Federal Government. Schools are private if supported and controlled primarily by religious organizations or other private groups.
12. Mark the category for the highest grade or level of schooling the person has successfully completed or the highest degree the person received. If the person is enrolled in school, mark the category containing the highest grade completed (the grade previous to the grade in which enrolled). Schooling completed in foreign or ungraded schools should be reported as the equivalent level of schooling in the regular American school system.

Persons who completed high school by passing an equivalency test, such as the General Educational Development (GED) examination, and did not attend college, should fill the circle for high school graduate.

Do not include vocational certificates or diplomas from vocational, trade, or business schools or colleges unless they were college level associate degrees or higher.

Some examples of professional school degrees include medicine, dentistry, chiropractic, optometry, osteopathic medicine, pharmacy, podiatry, veterinary medicine, law, and theology. Do not include barber school, cosmetology, or other training for a specific trade.

Do not include honorary degrees awarded by colleges and universities to individuals for their accomplishments. Include only "earned" degrees.
13. Print the ancestry group. Ancestry refers to the person's ethnic origin or descent, "roots," or heritage. Ancestry also may refer to the country of birth of the person or the person's parents or ancestors before their arrival in the United States. All persons, regardless of citizenship status, should answer this question.

Persons who have more than one origin and cannot identify with a single ancestry group may report two ancestry groups (for example, German-lrish).

Be specific. For example, print whether West Indian, Asian Indian, or American Indian. West Indian includes persons whose ancestors came from Jamaica, Trinidad, Haiti, etc. Distinguish Cape Verdean from Portuguese; French Canadian from Canadian; and Dominican Republic from Dominica Island.

A religious group should not be reported as a person's ancestry.

## Instructions for <br> Questions 14a through 19

14a. Mark Yes if this person lived in this same house or apartment on April 1 , 1985, even if he/she moved away and came back since then. Mark No if this person lived in the same building but in a different apartment (or in the same mobile home or trailer but on a different lot or trailer site).
b. If this person lived in a different house or apartment on April 1, 1985, give the location of this person's usual home at that time.

## Part (1)

If the person lived in the United States on April 1, 1985, print the name of the State (or District of Columbia) where he or she lived. Continue with parts (2) through (4).
If the person lived in a U.S. teritory or commonwealth, print the name of the territory or commonwealth, such as Puerto Rico, U.S. Virgin Islands, Guam, American Samoa, or Northern Marianas. Then go to question 15a.
If the person lived outside the United States, print the name of the foreign country or area where he or she lived. Specify whether Northern Ireland or the Republic of Ireland (Eire); East or West Germany; North or South Korea; England, Scotland or Wales (not Great Britain or United Kingdom). Specify the particular country or island in the Caribbean (not, for example, West Indies). Then go to question 15a.

## Part (2)

If the person lived in Louisiana, print the parish name. If the person lived in Alaska, print the borough name. If the person lived in New York city and the county name is not known, print the borough name. If the person lived in an independent city (not in any county) or in Washington, D.C., leave blank and enter the city name in part (3).

## Part (3)

If the person lived in New England, print the name of the town rather than the village name, unless the name of the town is not known. If the person lived outside the limits or boundaries of any city or town, print the name of the post office or the nearest town and mark No, lived outside the city/town limits in part (4).

## Part (4)

Mark Yes if the location is now inside the city/town limits even if it was not inside the limits on April 1, 1985; that is, if the area was annexed by the city/town since that time.
15. Mark Yes if the person sometimes or always speaks a language other than English at home.
Do not mark Yes for a language spoken only at school or if speaking is limited to a few expressions or slang.
Print the name of the language spoken at home. If this person speaks more than one non-English language and cannot determine which is spoken more often, report the first language the person learned to speak.
17a. For a person with service in the National Guard or a military reserve unit, fill one of the two Yes, active duty circles if and only if the person has ever been called up for active duty other than training; otherwise, mark Yes, service in Reserves or National Guard only. For a person whose only service was as a civilian employee or volunteer for the Red Cross, USO, Public Health Service, or War or Defense Department, mark No. Count World War II Merchant Marine Seaman service as active duty; do not count other Merchant Marine service as active duty.
18. Mark Yes to part (a) if a health condition substantially limits this person in his or her choice of occupation or if the condition limits the amount of work that can be accomplished in a given period of time. Mark Yes to part (b) if the health condition prevents this person from holding any significant employment.
19. Consider a person to have difficulty with these activities if any of the following situations apply: (1) it takes extra time or extra effort for the person to perform one or more of the activities, (2) there are times when the person cannot perform one or more of the activities, or (3) the person is completely unable to perform one or more of the activities.

## Instructions for <br> Questions 20 through 23b

20. Count all children born alive, including any who have died (even shortly after birth) or who no longer live with you. Do not include miscarriages or stillborn children or any adopted, foster, or stepchildren.
21a. Count as work - Mark Yes:

- Work for someone else for wages, salary, piece rate, commission, tips, or payments "in kind" (for example, food, lodging received as payment for work performed).
- Work in own business, professional practice, or farm.
- Any work in a family business or farm, paid or not.
- Any part-time work including babysitting, paper routes, etc.
- Active duty in Armed Forces.

Do not count as work - Mark No:

- Housework or yard work at home.
- Unpaid volunteer work.
- School work.
- Work done as a resident of an institution.

22a. Include the street type (for example, St., Road, Ave.) and the street direction (if a direction such as "North" is part of the address). For example, print 1239 N. Main St. or 1239 Main St., N.W. not just 1239 Main.
If the only known address is a post office box, give a description of the work location. For example, print the name of the building or shopping center where the person works, the nearest intersection, the nearest street where the workplace is located, etc. DO NOT GIVE A POST OFFICE BOX NUMBER.
If the person worked at a military installation or military base that has no street address, report the name of the military installation or base.
If the person worked at several locations, but reported to the same location each day to begin work, print the address of the location where he or she reported. If the person did not report to the same location each day to begin work, print the address of the location where he or she worked most last week.
If the person's employer operates in more than one location (such as a grocery store chain or public school system), print the exact address of the location or branch where the person worked. If the exact address of a school is not known, print the name of the school.
If the person worked on a college or university campus and the exact address of the workplace is not known, print the name of the building where he or she worked.
d. If the person worked in New York city and the county is not known, print the name of the borough where the person worked.
If the person worked in Louisiana, print the name of the parish where the person worked.
If the person worked in Alaska, print the name of the borough where the person worked.
e. If the person worked in a foreign country or Puerto Rico, Guam, etc., print the name of the country in $22 e$ and leave the other parts of question 22 blank.
23a. If the person usually used more than one type of transportation to get to work (for example, rode the bus and transferred to the subway), fill the circle of the one method of transportation that he/she used for most of the distance during the trip.
b. If the person was driven to work by someone who then drove back home or to a nonwork destination, fill the circle for Drove alone.
DO NOT include persons who rode to school or some other nonwork destination in the count of persons who rode in the vehicle.

## Instructions for <br> Questions 24a through 30

24a. Give the time of day the person usually left home to go to work. DO NOT give the time that the person usually began his or her work.
If the person usually left home to go to work sometime between 12:00 o'clock midnight and 12:00 o'clock noon, fill the a.m. circle.
If the person usually left home to go to work sometime between 12:00 o'clock noon and 12:00 o'clock midnight, ill the p.m. circle.
b. Travel time is from door to door. Include time taken waiting for public transportation or picking up passengers in a carpool.
25. If the person works only during certain seasons or on a day-by-day basis when work is available, mark No.
26a. Mark Yes if the person tried to get a job or to start a business or professional practice at any time in the last 4 weeks; for example, registered at an employment office, went to a job interview, placed or answered ads, or did anything toward starting a business or professional practice.
b. Mark No, already has a job if the person was on layoff or was expecting to report to a job within 30 days.
Mark No, temporarily ill if the person expects to be able to work within 30 days.
Mark No, other reasons if the person could not have taken a job because he or she was going to school, taking care of children, etc.
27. Look at the instructions for question 21 a to see what to count as work. Mark Never worked if the person: (1) never worked at any kind of job or business, either full or part time, (2) never did any work, with or without pay, in a family business or farm, and (3) never served in the Armed Forces.
28a. If the person worked for a company, business, or government agency, print the name of the company, not the name of the person's supervisor. If the person worked for an individual or a business that had no company name, print the name of the individual worked for. If the person worked in his/her own business, print "self-employed."
b. Print two or more words to tell what the business, industry, or individual employer named in 28a did. If there is more than one activity, describe only the major activity at the place where the person worked. Enter what is made, what is sold, or what service is given.
Some examples of what to enter:
Enter a description like

| the following - | Do not enter - |
| :--- | :--- |
| Metal furniture manufacturing | Furniture company |
| Retail grocery store | Grocery store |
| Petroleum refining | Oil company |
| Cattle ranch | Ranch |

29. Print two or more words to describe the kind of work the person did. If the person was a trainee, apprentice, or helper, include that in the description. Some examples of what to enter:
Enter a description like

| the following - | Do not enter - |
| :--- | :--- |
| Production clerk | Clerk |
| Carpenter's helper | Helper |
| Auto engine mechanic | Mechanic |
| Registered nurse | Nurse |

30. Mark Employee of a PRIVATE NOT-FOR-PROFIT . . . organization
if the person worked for a cooperative, credit union, mutual insurance company, or similar organization.
Employees of foreign governments, the United Nations, and other international organizations should mark PRIVATE NOT-FOR-PROFIT . . organization.
For persons who worked at a public school, college or university, mark the appropriate government category; for example, mark State GOVERNMENT employee for a state university, or mark Local GOVERNMENT employee for a county-run community college or a city-run public school.

## Instructions for <br> Questions 31a through 32h

31a. Look at the instructions for question 21 a to see what to count as work.
b. Count every week in which the person did any work at all, even for an hour.
32. Fill the Yes or No circle for each part and enter the amount received during 1989.

If income from any source was received jointly by household members, report, if possible, the appropriate share for each person; otherwise, report the whole amount for only one person and fill the No circle for the other person.
a. Include wages and salaries from all jobs before deductions. Be sure to include any tips, commissions, or bonuses. Owners of incorporated businesses should enter their salary here. Military personnel should include base pay plus cash housing and/or subsistence allowance, flight pay, uniform allotments, reenlistment bonuses, etc.
b. Include NONFARM profit (or loss) from self-employment in sole proprietorships and partnerships. Exclude profit (or loss) of incorporated businesses you own.
C. Include FARM profit (or loss) from self-employment in sole proprietorships and partnerships. Exclude profit (or loss) of incorporated farm businesses you own. Also exclude amounts from land rented for cash but include amounts from land rented for shares.
d. Include interest received or credited to checking and savings accounts, money market funds, certificates of deposit (CDs), IRAs, KEOGHs, and government bonds.
Include dividends received, credited, or reinvested from ownership of stocks or mutual funds.
Include profit (or loss) from royalties and the rental of land, buildings or real estate, or from roomers or boarders. Income received by self-employed persons whose primary source of income is from renting property or from royalties should be included in questions 32 b or 32 c above. Include regular payments from an estate or trust fund.
e. Include Social Security (and/or Railroad Retirement) payments to retired persons, to dependents of deceased insured workers, and to disabled workers before Medicare deductions.
f. Include Supplemental Security Income received by aged, blind, or disabled persons, Aid to Families with Dependent Children, or income from other government programs such as general or emergency assistance. Do not include assistance received from private charities. Exclude assistance to pay for heating (cooling) costs.
g. Include retirement, disability, or survivor benefits received from companies and unions; Federal, State, and local governments, and the U.S. military. Include regular income from annuities and IRA or KEOGH retirement plans.
h. Include Veterans' (VA) disability compensation and educational assistance payments (VEAP), unemployment compensation, child support or alimony, and all other regular payments such as Armed Forces transfer payments; assistance from private charities; regular contributions from persons not living in the household, etc.
Do not include the following as income in any item:

- Refunds or rebates of any kind
- Withdrawals from savings of any kind
- Capital gains or losses from the sale of homes, shares of stock, etc.
- Inheritances or insurance settlements
- Any type of loan
- Pay in-kind such as food, free rent, etc.


## What the Census Is About Some Questions and Answers

## Why are we taking a census?

The most important reason for taking a decennial census is to determine how many representatives each state will have in Congress.

## What does the Census Bureau do with the information you provide?

The individual information collected in the census is grouped together into statistical totals. Information such as the number of persons in a given area, their ages, educational background, the characteristics of their housing, etc., enable government, business, and industry to plan more effectively.

## How long have we been taking the census?

The first census was taken in 1790 in accordance with the requirement in the first article of the constitution. A census has been taken every 10 years since. The 1990 Decennial Census marks the 200th anniversary of the census.

## How are you being counted?

Census forms are delivered to all households a few days before census day. Households are requested to fill out the form and mail it back to the census office.

## Why the Census Asks Certain Questions

## Here are a few reasons for asking some of the questions.

It is as important to get information about people and their houses as it is to count them.

## Name?

Names help make sure that everyone in a household is counted, but that no one is counted twice.

## Value or rent?

Government and planning agencies use answers to these questions in combination with other information to develop housing programs to meet the needs of people at different economic levels.

## Complete plumbing?

This question gives information on the quality of housing. The data are used with other statistics to show how the "level of living" compares in various areas and how it has changed over time.

## Place of birth?

This question provides information used to study long-term trends as to where people move and to study migration patterns and differences in growth patterns.
Job?
Answers to the questions about the jobs people hold provide information on the extent and types of employment in different areas of the country. From this information, training programs can be developed and the need for new industries can be determined.

Income?
Income, more than anything else, determines how families or persons live. Income information makes it possible to compare the economic levels of different areas.

## OFFICIAL 1990 U.S. CENSUS FORM

Thank you for taking time to complete and return this census questionnaire. It's important to you, your community, and the Nation.

The law requires answers but guarantees privacy.
By law (Title 13, U.S. Code), you're required to answer the census questions to the best of your knowledge. However, the same law guarantees that your census form remains confidential. For 72 years--or until the year 2062--only Census Bureau employees can see your form. No one else-no other government body, no police department, no court system or welfare agency--is permitted to see this confidential information under any circumstances.

## How to get started-and get help.

Start by listing on the next page the names of all the people who live in your home. Please answer all questions with a black lead pencil. You'll find detailed instructions for answering the census in the enclosed guide. If you need additional help, call the toll-free telephone number to the left, near your address.

Please answer and return your form promptly.
Complete your form and return it by April 1, 1990 in the postage-paid envelope provided. Avoid the inconvenience of having a census taker visit your home.

Again, thank you for answering the 1990 Census. Remember: Return the completed form by April 1, 1990.

## Para personas de habla hispana -

(For Spanish-speaking persons)
Si usted desea un cuestionario del censo en español, llame sin cargo alguno al siguiente número: 1-800-CUENTAN
(o sea 1-800-283-6826)
U.S. Department of Commerce BUREAU OF THE CENSUS

FORM D-2

OMB No. 0607-0628
Approval Expires 07/31/91

## Page 1

The 1990 census must count every person at his or her "usual residence." This means the place where the person lives and sleeps most of the time.

1a. List on the numbered lines below the name of each person living here on Sunday, April 1, including all persons staying here who have no other home. If EVERYONE at this address is staying here temporarily and usually lives somewhere else, follow the instructions given in question 1 b below.

## Include

- Everyone who usually lives here such as family members, housemates and roommates, foster children, roomers, boarders, and live-in employees
- Persons who are temporarily away on a business trip, on vacation, or in a general hospital
- College students who stay here while attending college
- Persons in the Armed Forces who live here
- Newborn babies still in the hospital
- Children in boarding schools below the college level
- Persons who stay here most of the week while working even if they have a home somewhere else
- Persons with no other home who are staying here on April 1


## Do NOT include

- Persons who usually live somewhere else
- Persons who are away in an institution such as a prison, mental hospital, or a nursing home
- College students who live somewhere else while attending college
- Persons in the Armed Forces who live somewhere else
- Persons who stay somewhere else most of the week while working

Print last name, first name, and middle initial for each person. Begin on line 1 with the household member (or one of the household members) in whose name this house or apartment is owned, being bought, or rented. If there is no such person, start on line 1 with any adult household member.

| LAST | FIRST | InItiAL | LAST | FIRST | initial |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 |  |  | 7 |  |  |
| 2 |  |  | 8 |  |  |
| 3 |  |  | 9 |  |  |
| 4 |  |  | 10 |  |  |
| 5 |  |  | 11 |  |  |
| 6 |  |  | 12 |  |  |

1b. If EVERYONE is staying here only temporarily and usually lives somewhere else, list the name of each person on the numbered lines above, fill this circle $\longrightarrow 0$ and print their usual address below. DO NOT PRINT THE ADDRESS LISTED ON THE FRONT COVER.

| House number | Street or road/Rural route and box number | Apartment number |
| :--- | :---: | :---: |
| City | State | ZIP Code |
| County or foreign country |  |  |

NOW PLEASE OPEN THE FLAP TO PAGE 2 AND ANSWER ALL QUESTIONS FOR THE FIRST 7 PEOPLE LISTED. USE A BLACK LEAD PENCIL ONLY.

PLEASE ALSO ANSWER HOUSING QUESTIONS ON PAGE 3






## 9. Is this person a CITIZEN of the United States?

- Yes, born in the United States - Skip to 11
- Yes, borm in Puerto Rico, Guam, the U.S. Virgin Islands, or Northern Marianas
- Yes, born abroad of American parent or parents
- Yes, U.S. citizen by naturalization

O No, not a citizen of the United States
10. When did this person come to the United States to stay?

| - 1987 to 1990 | - 1970 to 1974 |
| :---: | :---: |
| - 1985 or 1986 | - 1965 to 1969 |
| - 1982 to 1984 | - 1960 to 1964 |
| - 1980 or 1981 | - 1950 to 1959 |
| - 1975 to 1979 | - Before 1950 |

11. At any time since February 1, 1990, has this person attended regular school or college? Include only nursery school, kindergarten, elementary school, and schooling which leads to a high school diploma or a college degree.

- No, has not attended since February 1
- Yes, public school, public college

Yes, private school, private college
12. How much school has this person COMPLETED? Fill ONE circle for the highest level COMPLETED or degree RECEIVED. If currently enrolled, mark the level of previous grade attended or highest degree received.

- No school completed

O Nursery school
O Kindergarten

- 1st, 2nd, 3rd, or 4th grade
- 5 th, 6 th, 7 th, or 8 th grade

0 9th grade

- 10th grade

O 11th grade

- 12th grade, NO DIPLOMA

O HIGH SCHOOL GRADUATE - high school DIPLOMA or the equivalent (For example: GED)

- Some college but no degree
- Associate degree in college - Occupational program
- Associate degree in college - Academic program
- Bachelor's degree (For example: BA, AB, BS)
- Master's degree (For example: MA, MS, MEng, MEd, MSW, MBA)
O Professional school degree (For example: MD, DDS, DVM, LLB, JD)
- Doctorate degree (For example: PhD, EdD)

13. What is this person's ancestry or ethnic origin? 7 (See instruction guide for further information.)

(For example: German, Italian, Afro-Amer., Croatian, Cape Verdean, Dominican, Ecuadoran, Haitian, Cajun, French Canadian, Jamaican, Korean, Lebanese, Mexican, Nigerian, lrish, Polish, Slovak, Taiwanese, Thai, Ukrainian, etc.)

14a. Did this person live in this house or apartment 5 years ago (on April 1, 1985)?

- Bom atter April 1, 1985 - Go to questions for
- Yes - Skip to 15a the next person

5 No
b. Where did this person live 5 years ago (on April 1, 1985)?
(1) Name of U.S. State or foreign country $?$

(2) Name of county in the U.S. 7

(3) Name of city or town in the U.S. 7

(4) Did this person live inside the city or town limits?

- Yes

O No, lived outside the city/town limits
15a. Does this person speak a language other than English at home?

$$
\text { Yes } \quad \text { No - Skip to } 16
$$

b. What is this language? 7

c. How well does this person speak English?

- Very well
- Not well
O Well
O Notat all

16. When was this person born?

O Bom before April 1, 1975 - Go to 17a

- Born April 1, 1975 or later - Go to questions for the next person

17a. Has this person ever been on active-duty military service in the Armed Forces of the United States or ever been in the United States military Reserves or the National Guard? If service was in Reserves or National Guard only, see instruction guide.
O Yes, now on active duty
O Yes, on active duty in past, but not now

- Yes, service in Reserves or National Guard only - Skip to 18
O No - Skip to 18
b. Was active-duty military service during -

Fill a circle for each period in which this person served.

- September 1980 or later
- May 1975 to August 1980
- Vietnam era (August 1964-April 1975)
- February 1955-July 1964
- Korean conflict (June 1950-January 1955)

O World War II (September 1940 - July 1947)
O World War I (April 1917-November 1918)

- Any other time
c. In total, how many years of active-duty military service has this person had?


18. Does this person have a physical, mental, or other health condition that has lasted for 6 or more months and which -
a. Limits the kind or amount of work this person can do at a job?
O Yes
O No
b. Prevents this person from working at a job?
O Yes
O No
19. Because of a health condition that has lasted for 6 or more months, does this person have any difficulty -
a. Going outside the home alone, for example, to shop or visit a doctor's office?
O Yes

- No
b. Taking care of his or her own personal needs, such as bathing, dressing, or getting around inside the home?
0 Yes
0 No

If this person is a female -
20. How many babies has she ever had, not counting stillbirths? Do not count her stepchildren or children she has adopted.
None $\begin{array}{llllllllllll}1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 & 11 & 12 \text { or more }\end{array}$
0000000000000
21a. Did this person work at any time LAST WEEK?
O Yes - Fill this circle if this person worked full time or part time. (Count part-time work such as delivering papers, or helping without pay in a family business or farm. Also count active duty in the Armed Forces.)
O No - Fill this circle if this person did not work, or did only own housework, school work, or volunteer work. - Skip to 25
b. How many hours did this person work LAST WEEK (at all jobs)? Subtract any time off; add overtime or extra hours worked.
22. At what location did this person work LAST WEEK?
If this person worked at more than one location, print where he or she worked most last week.
a. Address (Number and street) $\supsetneq$
(If the exact address is not known, give a description of the location such as the building name or the nearest street or intersection.)
b. Name of city, town, or post office

c. Is the work location inside the limits of that city or town?


Page 7
FOR PERSON 1 ON PAGE 2
23a. How did this person usually get to work LAST WEEK? If this person usually used more than one method of transportation during the trip, fill the circle of the one used for most of the distance.
O Car, truck, or van O Motorcycle

- Bus or trolley bus ○ Bicycle
- Streetcar or trolley car O Walked
O Subway or elevated Worked at home -
- Railroad
Skip to 28
$\bigcirc$ Ferryboat $\square 0$ Other method
- Taxicab
If "car, truck, or van" is marked in 23a, go to 23b. Otherwise skip to 24a.
b. How many people, including this person, usually rode to work in the car, truck, or van LAST WEEK?
- Drove alone
- 5 people
- 2 people
- 6 people
- 3 people
- 7 to 9 people
- 4 people
- 10 or more people

24a. What time did this person usually leave home to go to work LAST WEEK?

b. How many minutes did it usually take this person to get from home to work LAST WEEK?

25. Was this person TEMPORARILY absent or on layoff from a job or business LAST WEEK?

- Yes, on layoff

O Yes, on vacation, temporary illness, labor dispute, etc.
O No

26a. Has this person been looking for work during the last 4 weeks?
[ $O$ Yes
O No - Skip to 27
b. Could this person have taken a job LAST WEEK if one had been offered?

O No, already has a job

- No, temporarily ill
- No, other reasons (in school, etc.)
- Yes, could have taken a job

27. When did this person last work, even for a few days?

| - 1990 | Go | $\bigcirc$ | 1980 to 1984 |  |
| :---: | :---: | :---: | :---: | :---: |
| - 1989 | to | $\bigcirc$ | 1979 or earlier | to 32 |
| - 1988 | to | $\bigcirc$ | Never worked |  |
| 1985 to 1987 | 1 |  |  |  |

28-30. CURRENT OR MOST RECENT JOB
ACTIVITY. Describe clearly this person's chief job activity or business last week. If this person had more than one job, describe the one at which this person worked the most hours. If this person had no job or business last week, give information for his/her last job or business since 1985.
28. Industry or Employer
a. For whom did this person work? If now on active duty in the Armed Forces, fill this circle $\longrightarrow O$ and print the branch of the Armed Forces.

(Name of company, business, or other employer)
b. What kind of business or industry was this? Describe the activity at location where employed.

(For example: hospital, newspaper publishing, mail order house, auto engine manufacturing, retail bakery)
c. Is this mainly - Fill ONE circle

| O Manufacturing | Other (agriculture, |  |
| :--- | :--- | :--- |
| Wholesale trade |  | construction, service, |
| Retail trade | government, etc.) |  |

29. Occupation
a. What kind of work was this person doing?
(For example: registered nurse, personnel manager, supervisor of order department, gasoline engine assembler, cake icer)
b. What were this person's most important activities or duties? 7
(For example: patient care, directing hiring policies, supervising order clerks, assembling engines, icing cakes)
30. Was this person - Fill ONE circle

- Employee of a PRIVATE FOR PROFIT company or business or of an individual, for wages, salary, or commissions
- Employee of a PRIVATE NOT-FOR-PROFIT, tax-exempt, or charitable organization
- Local GOVERNMENT employee (city, county, etc.)
- State GOVERNMENT employee
- Federal GOVERNMENT employee
- SELF-EMPLOYED in own NOT INCORPORATED business, professional practice, or farm
- SELF-EMPLOYED in own INCORPORATED
business, professional practice, or farm
- Working WITHOUT PAY in family business or farm

31a. Last year (1989), did this person work, even for a few days, at a paid job or in a business or farm?

- Yes
- No - Skip to 32
b. How many weeks did this person work in 1989?

Count paid vacation, paid sick
leave, and military service.
c. During the weeks WORKED in 1989, how many
hours did this person usually work each week?
32. INCOME IN 1989 -

Fill the "Yes" circle below for each income source received during 1989. Otherwise, fill the "No" circle. If "Yes," enter the total amount received during 1989.
For income received jointly, see instruction guide. If exact amount is not known, please give best estimate.
If net income was a loss, write "Loss" above the dollar amount.
a. Wages, salary, commissions, bonuses, or tips from all jobs - Report amount before deductions for taxes, bonds, dues, or other items.

b. Self-employment income from own nonfarm business, including proprietorship and partnership - Report NET income after business expenses.
$\bigcirc$ No
$\$$
Annual amount - Dollars
c. Farm self-employment income - Report NET income after operating expenses. Include earnings as a tenant farmer or sharecropper.
$\mathrm{O} \mathrm{Yes} \longrightarrow$
An
Annual amount - Dolla
d. Interest, dividends, net rental income or royalty income, or income from estates and trusts Report even small amounts credited to an account.

e. Social Security or Railroad Retirement
$\underset{\substack{\text { O } \\ \mathrm{O} \\ \mathrm{No}}}{\substack{\text { Annual amount }- \text { Dollars }}}$
f. Supplemental Security Income (SSI), Aid to Families with Dependent Children (AFDC), or other public assistance or public
welfare payments

g. Retirement, survivor, or disability pensions Do NOT include Social Security.

$h$. Any other sources of income received regularly such as Veterans' (VA) payments, unemployment compensation, child support, or alimony - Do NOT include lump-sum payments such as money from an inheritance or the sale of a home.
$\bigcirc \mathrm{Yes} \longrightarrow$
$\bigcirc$ No \$
Annual amount -.
33. What was this person's total income in 1989? Add entries in questions 32 a through 32 h ; subtract any losses. If total amount was a loss, write "Loss" above amount.

- None


Please turn the page and answer questions for Person 2 listed on page 1. If this is the last person listed in question 1a on page 1, go to the back of the form.

## COMPUTATION OF RESPONSE ERROR MEASURES AND THEIR 90-PERCENT CONFIDENCE INTERVALS

This section presents the computational forms of the response error measures used in this report along with a numerical example.

## Display of Cross-Tabulated Dated-General Procedure

[Display of cross-tabulated data for characteristic with $L$ categories $(L \geq 2)$. The general term $X_{i j}$ represents the number of unweighted sample elements in the $\mathrm{i}^{\text {th }}$ category in the reinterview and $\mathrm{j}^{\text {th }}$ category in the census]


[^19]Example of Procedure-Marital Status (Unedited Data; 1990)

| Reinterview classification$(\mathrm{i}=1, \ldots, 5)$ | Census classification ( $j=1, \ldots, 5$ ) |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total matched persons | $\begin{array}{r} \text { Not } \\ \text { reported } \end{array}$ | Reported | Now married | Widowed | Divorced | Separated | Never married |
| Total-matched persons | 29,647 | 440 | 29,207 | 13,811 | 1,725 | 1,935 | 507 | 11,229 |
| Not reported. | 4,704 | 97 | 4,607 | 1,588 | 188 | 374 | 128 | 2,329 |
| Reported. | 24,943 | 343 | 24,600 | 12,223 | 1,537 | 1,561 | 379 | 8,900 |
| Now married. | 12,367 | 61 | 12,306 | 12,011 | 22 | 77 | 40 | 156 |
| Widowed. | 1,602 | 18 | 1,584 | 51 | 1,466 | 41 | 12 | 14 |
| Divorced | 1,582 | 21 | 1,561 | 31 | 27 | 1,368 | 94 | 41 |
| Separated. | 334 | 7 | 327 | 60 | 5 | 34 | 212 | 16 |
| Never married | 9,058 | 236 | 8,822 | 70 | 17 | 41 | 21 | 8,673 |

## COMPUTING THE NET DIFFERENCE RATE AND INDEX OF INCONSISTENCY

Net Difference Rate for Category $i$

$$
N D R=\frac{\left.\$ X_{. i} \$ X_{i .}\right)}{n} \times \$ 100 \$
$$

Net Difference Rate, Marital Status Category "Separated":

$$
\mathrm{NDR}=\frac{379 \$ 327}{24600} \times \$ 100 \$=\frac{52}{24600} \times \$ 100 \$=.21
$$

Index of Inconsistency for Category $i$


Index of Inconsistency, Marital Status Category "Separated"


$$
=\frac{706 \$ 424}{\frac{1}{24600} \$ 379 \$ 24273 \$ \$ 327 \$ 24221 \$ \$} \times \$ 100 \$=\frac{282}{695.92} \times \$ 100 \$=40.52
$$

L-fold Index of Inconsistency

$$
\hat{I}=\frac{\$ n \$ x_{i i} \$}{\$ n \$ \frac{1}{n} \$ x_{i} x_{i} \$} x \$ 100 \$
$$

L-fold Index of Inconsistency, Marital Status:


## COMPUTING 90-PERCENT CONFIDENCE INTERVALS

Net Difference Rate for Category $i$

$$
\frac{\left.\$ X_{.} \$ X_{i .}\right)}{n} \pm \frac{Z}{2 n} \$ Z^{2} \$ 4 \$ X_{.} \$ X_{i .} \$ 2 X_{i i} \$^{1 \$ 2} \times \$ 100 \$
$$

where $Z=1.645$

Exceptions:
a. If $\left(X_{i i}-X_{i i}\right)=0$, then widen the upper confidence limit by adding $\$ \frac{Z^{2}}{2 n} \times \$ 100 \$ \$$
b. If $\left(X_{i i}-X_{i i}\right)=0$, then widen the lower confidence limit by subtracting $\$ \frac{Z^{2}}{2 n} \times \$ 100 \$ \$$
c. If both $a \& b$ above, the confidence limits are estimated as $\pm \frac{Z^{2}}{n} \times \$ 100 \$ \$$

## 90-PERCENT CONFIDENCE INTERVAL OF NET DIFFERENCE RATE FOR MARITAL STATUS CATEGORY "SEPARATED"

Low 90-percent confidence limit is

$\frac{52 \$ \$ .82 \$ \$ 33.63 \$}{24600} \times \$ 100 \$=.099$
High 90-percent confidence limit is

$\frac{52 \$ \$ .82 \$ \$ 33.63 \$}{24600} \times \$ 100 \$=.323$

## 90-PERCENT CONFIDENCE INTERVAL FOR INDEX OF INCONSISTENCY FOR CATEGORY $i$ :

1. If $\$ \frac{\mathrm{X}_{.} \$ \mathrm{X}_{\mathrm{i}} \$ 2 \mathrm{X}_{\mathrm{i}}}{\mathrm{n}} \$ \leq .10$, the 90 -percent confidence limits are
$\$ X_{i} \$ X_{i} . \$ 2 X_{i} i \frac{Z^{2}}{2} \$ \pm \frac{Z}{2} \$ Z^{2} \$ 4 \$ X_{i} \$ X_{i .} \$ 2 X_{i i} \$ \$ \$^{1 \$ 2}$

$$
x_{i} \$ 1 \$ \frac{X_{i}}{n} \$ \$ x_{i \cdot} \$ 1 \$ \frac{X_{i}}{n} \$
$$

where $Z=1.645$
2. If $\$ \frac{\mathrm{X}_{\mathrm{i}} \$ \mathrm{X}_{\mathrm{i}} \$ 2 \mathrm{X}_{\mathrm{i}}}{\mathrm{n}} \$ \geq .10$, the 90 -percent confidence limits are
$\left.\$ X_{i} \$ X_{i} . \$ 2 X_{i} \$ \frac{Z^{2}}{2} \$ \pm Z \$ \frac{1}{n} \$ X_{i} \$ X_{i} . \$ 2 X_{i} \$ \$ n \$ X_{i} \$ X_{i} . \$ 2 X_{i i} \$\right]^{1 \$ 2}$

$$
X_{i} \$ 1 \$ \frac{X_{i}}{n} \$ \$ x_{i} \$ 1 \$ \frac{X_{i}}{n} \$
$$

where $Z=1.645$

## 90-PERCENT CONFIDENCE INTERVAL FOR INDEX OF INCONSISTENCY FOR MARITAL STATUS CATEGORY "SEPARATED"

1. $\frac{379 \$ 327 \$ 2 \$ 212 \$}{24600}=.01$
2. Low 90-percent confidence limit is

$$
\begin{aligned}
& \$ 379 \$ 327 \$ 2 \$ 212 \$ \$ \frac{1.645^{2}}{2} \$ \$ \frac{1.645}{2} \sqrt{1.645^{2} \$ 4 \$ 379 \$ 327 \$ 2 \$ 212 \$ \$} \underset{379 \$ 1 \$ \frac{327}{24600} \$ \$ 327 \$ 1 \$ \frac{379}{24600} \$}{=\frac{283.35 \$ \$ .82 \$ \$ 33.63 \$}{373.96 \$ 321.96} \times \$ 100 \$=36.75}
\end{aligned}
$$

3. High 90-percent confidence limit is

$$
\begin{aligned}
& \$ 379 \$ 327 \$ 2 \$ 212 \$ \$ \frac{1.645^{2}}{2} \$ \$ \frac{1.645}{2} \sqrt{1.645^{2} \$ 4 \$ 379 \$ 327 \$ 2 \$ 212 \$ \$} \\
& 379 \$ 1 \$ \frac{327}{24600} \$ \$ 327 \$ 1 \$ \frac{379}{24600} \$ \\
& =\frac{283.35 \$ \$ .82 \$ \$ 33.63 \$}{373.96 \$ 321.96} \times \$ 100 \$=44.68
\end{aligned}
$$

## 90-PERCENT CONFIDENCE INTERVAL FOR L-FOLD INDEX OF INCONSISTENCY:

1. If $\frac{\$ n-\$ x_{i i} \$}{n} \leq .10$, the $90 \$$ percent confidence limits are

where $Z=1.645$
2. $\frac{\$ n \$ \$ \mathrm{X}_{\mathrm{i}} \$}{\mathrm{n}} \leq .10$ the 90 -percent confidence limits are
$\frac{\$ n \$ \$ X_{i i} \$ \frac{Z^{2}}{2} \$ \pm Z \underset{\sim}{n} \frac{1}{n} \$ n \$ \$ x_{i i} \$ \$ \$ x_{i} \$ \${ }^{1 \$ 2}}{\$ n \$-\frac{1}{n} \$ x_{i} \$} \times \$ 100 \$$
where $Z=1.645$

## 90-PERCENT CONFIDENCE INTERVAL FOR L-FOLD INDEX OF INCONSISTENCY, MARITAL STATUS

$1.24600 \$ \$ 12011 \$ 1466 \$ 1368 \$ 212 \$ 8673 \$ 24$
2. Low 90-percent confidence limit is
$\$ 24600 \$ \$ 12011 \$ 1466 \$ 1368 \$ 212 \$ 8673 \$ \$ \frac{1.645^{2}}{2} \$ \$ \frac{1.645}{2} \sqrt{1.645^{2} \$ 4 \$ 24600 \$ \$ 12011 \$ 1466 \$ 1368 \$ 212 \$ 8673 \$ \$}$
$24600 \$ \$ \frac{1}{24600} \$ \$ \$ 12223 \$ \$ 12306 \$ \$ \$ 1537 \$ \$ 1584 \$ \$ \$ 1561 \$ \$ 1561 \$ \$ \$ 379 \$ \$ 327 \$ \$ \$ 8900 \$ \$ 8822 \$ \$$
$=\frac{871.35 \$ \$ .82 \$ \$ 59.01 \$ \$ 100 \$=5.45}{24600 \$ 9509.24}$
3. High 90-percent confidence limit is
$\$ 24600 \$ \$ 12011 \$ 1466 \$ 1368 \$ 212 \$ 8673 \$ \$ \frac{1.645^{2}}{2} \$ \$ \frac{1.645}{2} \sqrt{1.645^{2} \$ 4 \$ 24600 \$ \$ 12011 \$ 1466 \$ 1368 \$ 212 \$ 8673 \$ \$}$
$24600 \$ \$ \frac{1}{24600} \$ \$ \$ 12223 \$ \$ 12306 \$ \$ \$ 1537 \$ \$ 1584 \$ \$ \$ 1561 \$ \$ 1561 \$ \$ \$ 379 \$ \$ 327 \$ \$ \$ 8900 \$ \$ 8822 \$ \$$
$=\frac{871.35 \$ \$ .82 \$ \$ 59.01 \$}{24600 \$ 9509.24} * \$ 100 \$=6.09$
$\leq .10$ the 90-percent confidene limits are

$$
\frac{\$ n \$ \$ x_{i i} \$}{n}
$$

$\leq .10$ the 90 -percent confidene limits are

# APPENDIX C. Data Comparison Tables for Housing Characteristics 

Table C.1. Census Question H2—Which Best Describes This Building?—Unedited, Total Units: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Total. | 12,872 | 127 | 12,745 | 853 | 8,218 | 607 | 529 | 562 | 546 | 445 | 349 | 527 | 109 |
| Not reported ${ }^{2}$ | 2,401 | 74 | 2,327 | 162 | 1,107 | 149 | 133 | 176 | 155 | 144 | 110 | 167 | 24 |
| Reported | 10,471 | 53 | 10,418 | 691 | 7,111 | 458 | 396 | 386 | 391 | 301 | 239 | 360 | 85 |
| Item responses |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. A mobile home or trailer ... | 702 | 2 | 700 | 644 | 52 | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2. A 1-family house detached from any other house | 7,225 | 39 | 7,186 | 43 | 6,937 | 60 | 62 | 16 | 11 | 12 | 5 | 5 | 35 |
| 3. A 1 -family house attched to 1 or more houses | 552 | 5 | 547 | 1 | 53 | 341 | 62 | 24 | 34 | 12 | 7 | 5 | 8 |
| 4. A building with 2 apartments . | 263 | 1 | 262 | 1 | 26 | 18 | 200 | 10 | 0 | 2 | 0 | 1 | 4 |
| 5. A building with 3 or 4 apartments | 372 | 0 | 372 | 0 | 7 | 13 | 34 | 265 | 28 | 7 | 7 | 6 | 5 |
| 6. A building with 5 to 9 apartments | 370 | 2 | 368 | 0 | 7 | 8 | 4 | 34 | 235 | 45 | 13 | 19 | 3 |
| 7. A building with 10 to 19 apartments | 276 | 0 | 276 | 0 | 4 | 2 | 0 | 16 | 44 | 173 | 22 | 14 | 1 |
| 8. A building with 20 to 49 apartments | 248 | 1 | 247 | 1 | 0 | 3 | 1 | 4 | 14 | 33 | 159 | 28 | 4 |
| 9. A building with 50 or more apartments | 339 | 2 | 337 | 0 | 3 | 0 | 1 | 5 | 18 | 12 | 23 | 267 | 8 |
| 10. Other. | 124 | 1 | 123 | 1 | 22 | 12 | 30 | 12 | 7 | 5 | 3 | 14 | 17 |

${ }^{1}$ Not reported includes individual item nonresponse.
${ }^{2}$ Not reported includes individual item nonresponse, household refusals, movers, vacants, and other noninterviews (that is, households with language barriers, all household members ill, hospitalized, or temporarily absent during the entire survey period, and so forth).

Table C.2. Census Question H19A—Is This House on Less Than 1 Acre?—Unedited: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported | 1 | 2 |
| Total | 12,872 | 2,846 | 10,026 | 7,656 | 2,370 |
| Not reported ${ }^{2}$. | 4,280 | 2,069 | 2,211 | 1,775 | 436 |
| Reported.. | 8,592 | 777 | 7,815 | 5,881 | 1,934 |
| Item responses |  |  |  |  |  |
| 1. Yes | 6,545 | 604 | 5,941 | 5,510 | 431 |
| 2. No. | 2,047 | 173 | 1,874 | 371 | 1,503 |

[^20]Table C.3. Census Question H19B-In 1989, What Were the Actual Sales of All Agricultural Products From This Property?-Unedited: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | $\begin{array}{r} \text { Not } \\ \text { reported }^{1} \end{array}$ | Reported | 1 | 2 | 3 | 4 | 5 | 6 |
| Total | 12,872 | 10,751 | 2,121 | 1,863 | 60 | 43 | 30 | 34 | 91 |
| Not reported ${ }^{2}$ | 11,314 | 10,665 | 649 | 569 | 12 | 16 | 11 | 11 | 30 |
| Reported. | 1,558 | 86 | 1,472 | 1,294 | 48 | 27 | 19 | 23 | 61 |
| Item responses |  |  |  |  |  |  |  |  |  |
| 1. None. | 1,390 | 78 | 1,312 | 1,257 | 27 | 9 | 6 | 5 | 8 |
| 2. \$1 to \$999. | 36 | 1 | 35 | 15 | 11 | 4 | 2 | 2 | 1 |
| 3. \$1,000 to \$2,499 | 24 | 2 | 22 | 5 | 5 | 11 | 1 | 0 | 0 |
| 4. \$2,500 to \$4,999 | 18 | 1 | 17 | 3 | 3 | 1 | 7 | 1 | 2 |
| 5. \$5,000 to \$9,999 | 21 | 1 | 20 | 2 | 1 | 0 | 2 | 10 | 5 |
| 6. $\$ 10,000$ or more | 69 | 3 | 66 | 12 | 1 | 2 | 1 | 5 | 45 |

${ }^{1}$ Not reported includes individual item nonresponse. This question was asked of only single units on 1 acre or more.
${ }^{2}$ Not reported includes individual item nonresponse, household refusals, movers, vacants, and other noninterviews (that is, households with language barriers, all household members ill, hospitalized, or temporarily absent during the entire survey period, and so forth). This question was asked of only single units on 1 acre or more.

Table C.4. Census Question H4-(Tenure) Is This House or Apartment. . .?—Unedited, Total Units: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported | 1 | 2 | 3 | 4 |
| Total | 12,872 | 172 | 12,700 | 5,357 | 3,081 | 3,995 | 267 |
| Not reported ${ }^{2}$ | 2,448 | 62 | 2,386 | 696 | 415 | 1,217 | 58 |
| Reported.... | 10,424 | 110 | 10,314 | 4,661 | 2,666 | 2,778 | 209 |
| Item responses |  |  |  |  |  |  |  |
| 1. Owned by you or someone in this household with a mortgage or loan | 4,510 | 44 | 4,466 | 4,222 | 111 | 126 | 7 |
| 2. Owned by you or someone in this household free and clear (without a mortgage). | 2,978 | 43 | 2,935 | 368 | 2,489 | 37 | 41 |
| 3. Rented for cash rent. . . . . . . . . . . . . | 2,721 | 21 | 2,700 | 51 | 29 | 2,579 | 41 |
| 4. Occupied without payment of cash rent . | 215 | 2 | 213 | 20 | 37 | 36 | 120 |

${ }^{1}$ Not reported includes individual item nonresponse.
${ }^{2}$ Not reported includes individual item nonresponse, household refusals, movers, vacants, and other noninterviews (that is, households with language barriers, all household members ill, hospitalized, or temporarily absent during the entire survey period, and so forth).

Table C.5. Census Question H10-Do You Have COMPLETE Plumbing Facilities in This House or Apartment; That Is, 1) Hot and Cold Piped Water, 2) A Flush Toilet, and 3) A Bathtub or Shower?—Unedited, Total Units: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported | 1 | 2 |
| Total | 12,872 | 738 | 12,134 | 12,022 | 112 |
| Not reported ${ }^{2}$. | 2,362 | 263 | 2,099 | 2,074 | 25 |
| Reported.. | 10,510 | 475 | 10,035 | 9,948 | 87 |
| Item responses |  |  |  |  |  |
| 1. Yes | 10,430 | 471 | 9,959 | 9,910 | 49 |
| 2. No | 80 | 4 | 76 | 38 | 38 |

[^21]Table C.6. Census Question H13-How Many Automobiles, Vans, and Trucks of 1-Ton Capacity or Less Are Kept at Home for Use by Members of Your Household?-Unedited, Total Units: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | $\begin{array}{r} \text { Not } \\ \text { reported }^{1} \end{array}$ | Reported | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Total. | 12,872 | 980 | 11,892 | 1,255 | 3,934 | 4,478 | 1,605 | 445 | 116 | 38 | 21 |
| Not reported ${ }^{2}$ | 2,407 | 396 | 2,011 | , 365 | -767 | , 617 | 179 | 54 | 18 | 6 | 5 |
| Reported . . . . . . . . . . | 10,465 | 584 | 9,881 | 890 | 3,167 | 3,861 | 1,426 | 391 | 98 | 32 | 16 |
| Item responses |  |  |  |  |  |  |  |  |  |  |  |
| 1. None . . . . . . . . . . . . . | 929 | 93 | 836 | 730 | 94 | 10 | 1 | 1 | 0 | 0 | 0 |
| 2. 1. | 3,329 | 198 | 3,131 | 119 | 2,665 | 296 | 40 | 10 | 0 | 1 | 0 |
| 3. 2. | 4,091 | 195 | 3,896 | 31 | 368 | 3,122 | 324 | 38 | 11 | 1 | 1 |
| 4. 3. | 1,490 | 69 | 1,421 | 8 | 32 | 347 | 890 | 123 | 14 | 6 | 1 |
| 5. 4 . | 464 | 21 | 443 | 2 | 8 | 71 | 136 | 173 | 41 | 9 | 3 |
| 6. 5. | 122 | 6 | 116 | 0 | 0 | 12 | 25 | 38 | 29 | 8 | 4 |
| 7. 6. | 28 | 0 | 28 | 0 | 0 | 2 | 9 | 5 | 3 | 6 | 3 |
| 8. 7 or more | 12 | 2 | 10 | 0 | 0 | 1 | 1 | 3 | 0 | 1 | 4 |

${ }^{1}$ Not reported includes individual item nonresponse.
${ }^{2}$ Not reported includes individual item nonresponse, household refusals, movers, vacants, and other noninterviews (that is, households with language barriers, all household members ill, hospitalized, or temporarily absent during the entire survey period, and so forth).

## Table C.7. Census Question H17- About When Was This Building First Built?—Unedited, Total Units: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | $\begin{array}{r} \text { Not } \\ \text { reported }^{1} \end{array}$ | Reported | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Total. | 12,872 | 856 | 12,016 | 130 | 880 | 898 | 2,206 | 1,628 | 1,436 | 800 | 1,712 | 2,326 |
| Not reported ${ }^{2}$ | 2,518 | 327 | 2,191 | 22 | 159 | 160 | 331 | 262 | 211 | 120 | 276 | 650 |
| Reported | 10,354 | 529 | 9,825 | 108 | 721 | 738 | 1,875 | 1,366 | 1,225 | 680 | 1,436 | 1,676 |
| Item responses |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. 1989 or 1990. | 152 | 7 | 145 | 69 | 37 | 10 | 8 | 3 | 0 | 1 | 2 | 15 |
| 2. 1985 to 1988 . | 793 | 32 | 761 | 28 | 582 | 89 | 21 | 1 | 3 | 2 | 3 | 32 |
| 3. 1980 to 1984 . | 819 | 41 | 778 | 2 | 76 | 503 | 119 | 14 | 0 | 1 | 2 | 61 |
| 4. 1970 to 1979 . | 2,178 | 109 | 2,069 | 2 | 9 | 109 | 1,518 | 189 | 24 | 6 | 5 | 207 |
| 5. 1960 to 1969. | 1,532 | 78 | 1,454 | 3 | 5 | 3 | 106 | 946 | 177 | 19 | 21 | 174 |
| 6. 1950 to 1959. | 1,356 | 53 | 1,303 | 0 | 2 | 2 | 25 | 116 | 832 | 113 | 36 | 177 |
| 7. 1940 to 1949. | 791 | 46 | 745 | 1 | 1 | 1 | 3 | 20 | 86 | 382 | 112 | 139 |
| 8. 1939 or earlier. | 2,010 | 110 | 1,900 | 2 | 0 | 3 | 14 | 19 | 48 | 120 | 1,183 | 511 |
| 9. Don't know. . . . | 723 | 53 | 670 | 1 | 9 | 18 | 61 | 58 | 55 | 36 | 72 | 360 |

${ }^{1}$ Not reported includes individual item nonresponse.
${ }^{2}$ Not reported includes individual item nonresponse, household refusals, movers, vacants, and other noninterviews (that is, households with language barriers, all household members ill, hospitalized, or temporarily absent during the entire survey period, and so forth).

Table C.8. Census Question H7A—What Is the Monthly Rent?—Unedited: 1990 Census


${ }^{1}$ Not reported includes individual item nonresponse. This question was asked of only renters.
${ }^{2}$ Not reported includes individual item nonresponse, household refusals, movers, vacants, and other noninterviews (that is, households with language barriers, all household members ill, hospitalized, or temporarily absent during the entire survey period, and so forth). This question was asked of only renters.

Table C.8. Census Question H7A—What Is the Monthly Rent?—Unedited: 1990 Census—Con.


${ }^{1}$ Not reported includes individual item nonresponse. This question was asked of only renters.
${ }^{2}$ Not reported includes individual item nonresponse, household refusals, movers, vacants, and other noninterviews (that is, households with language barriers, all household members ill, hospitalized, or temporarily absent during the entire survey period, and so forth). This question was asked of only renters.

Table C.9. Census Question H7B—Does the Monthly Rent Include Any Meals?—Unedited: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported | 1 | 2 |
| Total | 12,872 | 9,069 | 3,803 | 17 | 3,786 |
| Not reported ${ }^{2}$. | 10,138 | 8,798 | 1,340 | 8 | 1,332 |
| Reported. | 2,734 | 271 | 2,463 | 9 | 2,454 |
| Item responses |  |  |  |  |  |
| 1. Yes | 7 | 2 | 5 | 2 | 3 |
| 2. No. | 2,727 | 269 | 2,458 | 7 | 2,451 |

${ }^{1}$ Not reported includes individual item nonresponse. This question was asked of only renters.
${ }^{2}$ Not reported includes individual item nonresponse, household refusals, movers, vacants, and other noninterviews (that is, households with language barriers, all household members ill, hospitalized, or temporarily absent during the entire survey period, and so forth). This question was asked of only renters.

Table D.1. Census Question P7—Is This Person of Spanish/ Hispanic Origin?—Unedited, Total Persons: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported | 1 | 2 | 3 | 4 | 5 |
| Total | 29,647 | 1,137 | 28,510 | 26,413 | 1,262 | 251 | 92 | 492 |
| Not reported ${ }^{2}$ | 4,760 | 229 | 4,531 | 4,052 | 280 | 68 | 18 | 113 |
| Reported. | 24,887 | 908 | 23,979 | 22,361 | 982 | 183 | 74 | 379 |
| Item responses: |  |  |  |  |  |  |  |  |
| 1. No (not Spanish/ Hispanic) | 23,149 | 853 | 22,296 | 22,186 | 31 | 4 | 5 | 70 |
| 2. Yes, Mexican, Mexican-American, Chicano | 1,039 | 24 | 1,015 | 59 | 917 | 1 | 0 | 38 |
| 3. Yes, Puerto Rican . | 187 | 5 | 182 | 11 | 0 | 167 | 0 | 4 |
| 4. Yes, Cuban | 76 | 2 | 74 | 5 | 1 | 0 | 64 | 4 |
| 5. Yes, other Spanish/ Hispanic. | 436 | 24 | 412 | 100 | 33 | 11 | 5 | 263 |

[^22]Table D.2. Census Question P10—When Did This Person Come to the United States to Stay?—Unedited: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Total. | 29,647 | 26,850 | 2,797 | 321 | 192 | 224 | 187 | 371 | 266 | 209 | 212 | 358 | 457 |
| Not reported ${ }^{2}$ | 28,102 | 26,654 | 1,448 | 159 | 86 | 97 | 84 | 172 | 121 | 98 | 122 | 188 | 321 |
| Reported. | 1,545 | 196 | 1,349 | 162 | 106 | 127 | 103 | 199 | 145 | 111 | 90 | 170 | 136 |
| Item responses: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. 1987 to 1990 | 185 | 26 | 159 | 134 | 11 | 1 | 3 | 4 | 2 | 0 | 2 | 0 | 2 |
| 2. 1985 or 1986 | 130 | 23 | 107 | 17 | 75 | 8 | 4 | 2 | 0 | 0 | 0 | 1 | 0 |
| 3. 1982 to 1984 | 136 | 16 | 120 | 2 | 16 | 90 | 5 | 5 | 1 | 1 | 0 | 0 | 0 |
| 4. 1980 or 1981 | 147 | 22 | 125 | 2 | 2 | 24 | 74 | 17 | 4 | 1 | 1 | 0 | 0 |
| 5. 1975 to 1979 | 222 | 36 | 186 | 6 | 0 | 2 | 13 | 152 | 11 | 2 | 0 | 0 | 0 |
| 6. 1970 to 1974 | 164 | 20 | 144 | 0 | 0 | 1 | 1 | 12 | 118 | 10 | 1 | 1 | 0 |
| 7. 1965 to 1969 | 133 | 19 | 114 | 0 | 0 | 0 | 2 | 3 | 8 | 88 | 8 | 5 | 0 |
| 8. 1960 to 1964 | 99 | 12 | 87 | 0 | 0 | 1 | 0 | 2 | 1 | 3 | 73 | 7 | 0 |
| 9. 1950 to 1959 | 189 | 10 | 179 | 0 | 0 | 0 | 1 | 1 | 0 | 6 | 4 | 150 | 17 |
| 10. Before 1950 | 140 | 12 | 128 | 1 | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 6 | 117 |

[^23]Table D.3. Census Question P11-At Any Time Since February 1, 1990, Has This Person Attended Regular School or College?-Unedited, Total Persons: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported | 1 | 2 | 3 |
| Total | 29,647 | 2,377 | 27,270 | 20,650 | 5,642 | 978 |
| Not reported ${ }^{2}$. | 4,699 | 721 | 3,978 | 2,887 | 924 | 167 |
| Reported. | 24,948 | 1,656 | 23,292 | 17,763 | 4,718 | 811 |
| Item responses: |  |  |  |  |  |  |
| 1. No, has not attended since February 1 | 18,841 | 1,250 | 17,591 | 17,033 | 446 | 112 |
| 2. Yes, public school, public college . | 5,184 | 348 | 4,836 | 583 | 4,140 | 113 |
| 3. Yes, private school, private college. | 923 | 58 | 865 | 147 | 132 | 586 |

[^24]Table D.4. Census Question P28C—Is This Industry Mainly. . .?—Unedited: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported | 1 | 2 | 3 | 4 |
| Total | 29,647 | 13,474 | 16,173 | 2,768 | 627 | 2,805 | 9,973 |
| Not reported ${ }^{2}$ | 16,423 | 11,730 | 4,693 | 776 | 169 | 940 | 2,808 |
| Reported. | 13,224 | 1,744 | 11,480 | 1,992 | 458 | 1,865 | 7,165 |
| Item responses: |  |  |  |  |  |  |  |
| 1. Manufacturing | 2,238 | 233 | 2,005 | 1,614 | 65 | 71 | 255 |
| 2. Wholesale Trade | 619 | 77 | 542 | 91 | 223 | 79 | 149 |
| 3. Retail Trade. | 2,213 | 271 | 1,942 | 86 | 77 | 1,282 | 497 |
| 4. Other. | 8,154 | 1,163 | 6,991 | 201 | 93 | 433 | 6,264 |

${ }^{1}$ Not reported includes individual item nonresponse. This question was asked of only persons 15 years or older who reported working in 1985 or later.
${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This question was asked of only persons 15 years or older who reported working since January 1,1989 or later.

Table D.5. Census Question P30—Was This Person. . .?—Unedited: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Total | 29,647 | 12,954 | 16,693 | 11,339 | 996 | 1,099 | 778 | 641 | 1,207 | 454 | 179 |
| Not reported ${ }^{2}$ | 16,470 | 11,516 | 4,954 | 3,448 | 266 | 297 | 202 | 189 | 332 | 108 | 112 |
| Reported. | 13,177 | 1,438 | 11,739 | 7,891 | 730 | 802 | 576 | 452 | 875 | 346 | 67 |
| Item responses: |  |  |  |  |  |  |  |  |  |  |  |
| 1. Employee of a PRIVATE FOR PROFIT company or business or of an individual, for wages, salary or commissions | 8,751 | 966 | 7,785 | 7,249 | 164 | 59 | 38 | 28 | 142 | 86 | 19 |
| 2. Employee of a PRIVATE NOT-FOR-PROFIT, taxexempt, or charitable organization | 784 | 59 | 725 | 182 | 473 | 35 | 16 | 6 | 8 | 3 | 2 |
| 3. Local GOVERNMENT employee | 920 | 108 | 812 | 75 | 47 | 598 | 75 | 7 | 6 | 2 | 2 |
| 4. State GOVERNMENT employee . | 678 | 63 | 615 | 45 | 34 | 88 | 433 | 12 | 2 | 0 | 1 |
| 5. Federal GOVERNMENT employee | 493 | 36 | 457 | 30 | 2 | 16 | 7 | 397 | 4 | 1 | 0 |
| 6. SELF-EMPLOYED in own NOT INCORPORATED business, professional practice, or farm | 1,111 | 156 | 955 | 190 | 9 | 5 | 5 | 2 | 658 | 61 | 25 |
| 7. SELF-EMPLOYED in own INCORPORATED business, professional practice, or farm | 375 | 32 | 343 | 102 | 1 | 1 | 2 | 0 | 41 | 191 | 5 |
| 8. Working WITHOUT PAY in family business or farm | 65 | 18 | 47 | 18 | 0 | 0 | 0 | 0 | 14 | 2 | 13 |

[^25]Table D.6. Census Question P4—What Is This Person's Race?—Unedited, Total Persons: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Total | 29,647 | 578 | 29,069 | 24,286 | 3,098 | 157 | 3 | 1 | 137 | 156 | 31 | 83 | 43 | 83 | 67 | 6 | 9 | 105 | 804 |
| Not reported ${ }^{2}$ | 4,683 | 153 | 4,530 | 3,367 | 723 | 40 | 2 | 1 | 47 | 42 | 8 | 19 | 17 | 16 | 11 | 1 | 0 | 24 | 212 |
| Reported. . . . . . | 24,964 | 425 | 24,539 | 20,919 | 2,375 | 117 | 1 | 0 | 90 | 114 | 23 | 64 | 26 | 67 | 56 | 5 | 9 | 81 | 592 |
| Item responses: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. White. | 21,325 | 291 | 21,034 | 20,564 | 30 | 42 | 1 | 0 | 1 | 3 | 2 | 0 | 0 | 2 | 4 | 0 | 0 | 36 | 349 |
| 2. Black or Negro | 2,453 | 47 | 2,406 | 59 | 2,306 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 | 34 |
| 3. Indian (American) . | 120 | 5 | 115 | 36 | 5 | 69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 4. Eskimo. | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5. Aleut | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6. Chinese . | 102 | 1 | 101 | 1 | 0 | 0 | 0 | 0 | 83 | 3 | 1 | 0 | 4 | 1 | 0 | 0 | 0 | 3 | 5 |
| 7. Filipino. | 101 | 0 | 101 | 4 | 0 | 0 | 0 | 0 | 0 | 95 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 8. Hawaiian | 28 | 2 | 26 | 4 | 0 | 0 | 0 | 0 | 0 | 1 | 15 | 0 | 0 | 1 | 0 | 4 | 0 | 0 | 1 |
| 9. Korean. | 63 | 0 | 63 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10. Vietnamese . | 25 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11. Japanese. | 69 | 0 | 69 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 59 | 0 | 0 | 0 | 0 | 2 |
| 12. Asian Indian. | 52 | 0 | 52 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 45 | 0 | 0 | 2 | 0 |
| 13. Samoan. | 2 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 14. Guamanian | 11 | 1 | 10 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 |
| 15. Other API. . . . . . | 90 | 10 | 80 | 6 | 7 | 0 | 0 | 0 | 2 | 7 | 4 | 0 | 0 | 3 | 5 | 0 | 0 | 14 | 32 |
| 16. Other race . . | 522 | 68 | 454 | 229 | 27 | 4 | 0 | 0 | 0 | 4 | 0 | 3 | 1 | 0 | 1 | 0 | 0 | 22 | 163 |

[^26]
## Table D.7. Census Question P8-In What U.S. State or Foreign Country Was This Person Born?-Edited, Total Persons: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | $\begin{array}{r} \text { Not } \\ \text { re- } \\ \text { ported }^{1} \end{array}$ | Reported | AL | AK | AZ | AR | CA | CO | CT | DE | DC | FL | GA | HI |
| Total . | 27,983 | 0 | 27,983 | 630 | 25 | 169 | 380 | 1,571 | 268 | 314 | 41 | 108 | 514 | 630 | 109 |
| Not reported ${ }^{2}$ | 10,937 | 0 | 10,937 | 241 | 14 | 76 | 143 | 700 | 125 | 123 | 16 | 40 | 211 | 263 | 56 |
| Reported............ | 17,046 | 0 | 17,046 | 389 | 11 | 93 | 237 | 871 | 143 | 191 | 25 | 68 | 303 | 367 | 53 |
| Item responses: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Alabama. | 396 | 0 | 396 | 377 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 |
| Alaska. | 26 | 0 | 26 | 0 | 8 | 1 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Arizona . | 99 | 0 | 99 | 0 | 0 | 85 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Arkansas. | 220 | 0 | 220 | 0 | 0 | 0 | 215 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| California | 865 | 0 | 865 | 0 | 0 | 1 | 0 | 830 | 0 | 0 | 0 | 0 | 3 | 0 | 0 |
| Colorado. | 149 | 0 | 149 | 0 | 0 | 0 | 0 | 3 | 138 | 2 | 0 | 0 | 0 | 0 | 0 |
| Connecticut | 192 | 0 | 192 | 0 | 0 | 0 | 0 | 0 | 0 | 179 | 0 | 0 | 0 | 0 | 0 |
| Delaware | 25 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 0 |
| District of Columbia | 66 | 0 | 66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 58 | 0 | 0 | 0 |
| Florida | 289 | 0 | 289 | 1 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 272 | 2 | 0 |
| Georgia. | 372 | 0 | 372 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 5 | 354 | 0 |
| Hawaii. | 56 | 0 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 53 |
| Idaho | 46 | 0 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Illinois | 983 | 0 | 983 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 2 | 0 | 0 |
| Indiana | 476 | 0 | 476 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 0 | 0 |
| lowa | 305 | 0 | 305 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kansas | 233 | 0 | 233 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kentucky. | 380 | 0 | 380 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Louisiana | 366 | 0 | 366 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Maine | 89 | 0 | 89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Maryland. | 210 | 0 | 210 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 3 | 0 | 0 | 0 |
| Massachusetts . . . . . . . . . | 422 | 0 | 422 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 |
| Michigan. | 704 | 0 | 704 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 |
| Minnesota. | 388 | 0 | 388 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mississippi | 283 | 0 | 283 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Missouri | 441 | 0 | 441 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Montana | 35 | 0 | 35 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nebraska | 140 | 0 | 140 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nevada. | 17 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| New Hampshire | 45 | 0 | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| New Jersey. | 384 | 0 | 384 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| New Mexico | 52 | 0 | 52 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| New York | 1,278 | 0 | 1,278 | 1 | 0 | 0 | 1 | 3 | 0 | 2 | 1 | 0 | 4 | 1 | 0 |
| North Carolina | 471 | 0 | 471 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| North Dakota | 64 | 0 | 64 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ohio | 887 | 0 | 887 | 0 | 0 | 2 | 0 | 4 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| Oklahoma. | 252 | 0 | 252 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| Oregon . | 93 | 0 | 93 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pennsylvania | 995 | 0 | 995 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 |
| Rhode Island | 77 | 0 | 77 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| South Carolina | 282 | 0 | 282 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| South Dakota | 56 | 0 | 56 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tennessee | 400 | 0 | 400 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Texas | 837 | 0 | 837 | 0 | 0 | 1 | 2 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| Utah | 79 | 0 | 79 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vermont | 19 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Virginia . | 372 | 0 | 372 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 0 |
| Washington. | 207 | 0 | 207 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| West Virginia . . . . . . . . . . | 224 | 0 | 224 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Wisconsin. | 494 | 0 | 494 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Wyoming. | 29 | 0 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Puerto Rico. | 62 | 0 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Guam . | 8 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| American Samoa | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| U.S. Virgin Islands . . . . . . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other U.S. trusts and possessions | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Canada. | 48 | 0 | 48 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mexico | 197 | 0 | 197 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| All other responses | 859 | 0 | 859 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 2 | 0 | 0 |

${ }^{1}$ Edited census data; not reported responses were allocated.
${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth).

Table D.7. Census Question P8-In What U.S. State or Foreign Country Was This Person Born?-Edited, Total
Persons: 1990 Census-Con.

| Reinterview classification | Census classification-Con. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ID | IL | IN | IA | KS | KY | LA | ME | MD | MA | MI | MN | MS | MO | MT | NE |
| Total. | 75 | 1,507 | 730 | 528 | 384 | 607 | 589 | 146 | 348 | 661 | 1,128 | 649 | 429 | 754 | 63 | 198 |
| Not reported ${ }^{2}$ | 31 | 529 | 270 | 208 | 140 | 211 | 226 | 60 | 138 | 236 | 448 | 253 | 140 | 326 | 22 | 62 |
| Reported | 44 | 978 | 460 | 320 | 244 | 396 | 363 | 86 | 210 | 425 | 680 | 396 | 289 | 428 | 41 | 136 |
| Item responses: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Alabama. | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| Alaska | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Arizona. | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Arkansas | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| California | 0 | 1 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| Colorado | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Connecticut | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| Delaware | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| District of Columbia | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Florida | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 |
| Georgia | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Hawaii | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Idaho | 43 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Illinois. | 0 | 956 | 5 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Indiana | 0 | 3 | 443 | 20 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| lowa. | 0 | 2 | 1 | 294 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| Kansas. | 0 | 0 | 1 | 0 | 222 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 1 | 0 |
| Kentucky | 0 | 0 | 1 | 0 | 0 | 372 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Louisiana | 0 | 2 | 0 | 0 | 0 | 0 | 353 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| Maine . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 83 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Maryland | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 198 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| Massachusetts . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 405 | 0 | 0 | 1 | 0 | 0 | 0 |
| Michigan. | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 661 | 10 | 5 | 4 | 0 | 0 |
| Minnesota | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 376 | 0 | 0 | 0 | 0 |
| Mississippi | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 268 | 3 | 0 | 0 |
| Missouri | 0 | 2 | 0 | 0 | 14 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 4 | 407 | 4 | 0 |
| Montana. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 0 |
| Nebraska | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 135 |
| Nevada. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| New Hampshire | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| New Jersey | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| New Mexico | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| New York. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 0 | 1 | 1 | 0 | 0 | 0 |
| North Carolina | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| North Dakota | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| Ohio . | 0 | 0 | 5 | 0 | 0 | 8 | 1 | 0 | 1 | 0 | 3 | 1 | 1 | 1 | 0 | 0 |
| Oklahoma. | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Oregon. | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Pennsylvania | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rhode Island | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| South Carolina | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| South Dakota. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Tennessee. | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| Texas. | 0 | 1 | 0 | 1 | 2 | 2 | 0 | 0 | 1 | 0 | 1 | 2 | 0 | 1 | 0 | 0 |
| Utah | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Vermont | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Virginia. | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Washington | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| West Virginia | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Wisconsin. | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Wyoming | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Puerto Rico | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| Guam . . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| American Samoa | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| U.S. Virgin Islands | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other U.S. trusts and possessions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Canada. . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mexico . . | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| All other responses | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

${ }^{1}$ Edited census data; not reported responses were allocated.
${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth).

Table D.7. Census Question P8-In What U.S. State or Foreign Country Was This Person Born?-Edited, Total
Persons: 1990 Census-Con.

| Reinterview classification | Census classification-Con. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | NV | NH | NJ | NM | NY | NC | ND | OH | OK | OR | PA | RI | SC | SD | TN | TX |
| Total. | 45 | 79 | 618 | 91 | 2,053 | 749 | 97 | 1,392 | 401 | 181 | 1,646 | 126 | 423 | 92 | 605 | 1,469 |
| Not reported ${ }^{2}$ | 25 | 29 | 232 | 41 | 781 | 277 | 31 | 499 | 147 | 88 | 638 | 45 | 136 | 39 | 211 | 634 |
| Reported | 20 | 50 | 386 | 50 | 1,272 | 472 | 66 | 893 | 254 | 93 | 1,008 | 81 | 287 | 53 | 394 | 835 |
| Item responses: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Alabama. | 0 | 0 | 1 | 0 | 3 | 1 | 0 | 5 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Alaska | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Arizona. | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 4 |
| Arkansas | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| California | 0 | 0 | 1 | 0 | 3 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 5 |
| Colorado | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Connecticut | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| Delaware | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| District of Columbia | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Florida | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| Georgia | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 4 | 0 |
| Hawaii | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Idaho | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Illinois. | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| Indiana | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| lowa. | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kansas. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Kentucky | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Louisiana | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 2 |
| Maine . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| Maryland | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| Massachusetts . | 0 | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 |
| Michigan. | 0 | 0 | 1 | 1 | 0 | 2 | 0 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| Minnesota | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| Mississippi | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Missouri | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Montana. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nebraska | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nevada. | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| New Hampshire | 0 | 44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| New Jersey | 0 | 0 | 362 | 0 | 9 | 0 | 0 | 0 | 1 | 0 | 4 | 1 | 0 | 0 | 1 | 1 |
| New Mexico | 0 | 0 | 0 | 44 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| New York. | 0 | 2 | 11 | 0 | 1,223 | 4 | 0 | 0 | 0 | 0 | 5 | 1 | 0 | 0 | 1 | 0 |
| North Carolina | 0 | 0 | 1 | 0 | 2 | 450 | 0 | 0 | 0 | 0 | 1 | 0 | 5 | 0 | 0 | 0 |
| North Dakota | 0 | 0 | 0 | 0 | 0 | 0 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ohio. | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 851 | 2 | 0 | 2 | 0 | 0 | 0 | 2 | 0 |
| Oklahoma. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 241 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| Oregon. | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 88 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pennsylvania | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 979 | 1 | 0 | 0 | 0 | 0 |
| Rhode Island | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 74 | 0 | 0 | 0 | 0 |
| South Carolina | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 270 | 0 | 0 | 1 |
| South Dakota. | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 51 | 0 | 0 |
| Tennessee. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 3 | 0 | 1 | 0 | 376 | 2 |
| Texas | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 3 | 805 |
| Utah | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Vermont | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Virginia. | 0 | 0 | 0 | 0 | 1 | 6 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| Washington | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| West Virginia | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Wisconsin. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Wyoming | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Puerto Rico | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| Guam . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| American Samoa | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| U.S. Virgin Islands | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other U.S. trusts and possessions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Canada. . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mexico . . | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| All other responses | 0 | 0 | 1 | 1 | 14 | 0 | 0 | 10 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 2 |

${ }_{2}^{1}$ Edited census data; not reported responses were allocated.
${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth).

Table D.7. Census Question P8-In What U.S. State or Foreign Country Was This Person Born?-Edited, Total Persons: 1990 Census-Con.

| Reinterview classification | Census classification-Con. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | UT | VT | VA | WA | WV | WI | WY | Puerto Rico | Guam | American Samoa | Virgin Islands | Other U.S. | Canada | Mexico | Other |
| Total. . | 152 | 33 | 612 | 366 | 336 | 810 | 55 | 98 | 11 | 2 | 2 | 4 | 73 | 377 | 1,430 |
| Not reported ${ }^{2}$ | 74 | 16 | 240 | 156 | 110 | 311 | 27 | 40 | 3 | 0 | 2 | 1 | 29 | 182 | 585 |
| Reported............ | 78 | 17 | 372 | 210 | 226 | 499 | 28 | 58 | 8 | 2 | 0 | 3 | 44 | 195 | 845 |
| Item responses: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Alabama | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Alaska. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Arizona . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Arkansas. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| California | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 4 |
| Colorado. | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Connecticut | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Delaware | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| District of Columbia | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Florida | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Georgia. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Hawaii. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| Idaho | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Illinois | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Indiana | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| lowa | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kansas | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kentucky. | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Louisiana | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Maine | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Maryland. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Massachusetts | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| Michigan. | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 |
| Minnesota. | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mississippi | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Missouri | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Montana | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nebraska | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nevada. . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| New Hampshire | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| New Jersey. | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| New Mexico | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| New York | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| North Carolina | 0 | 0 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| North Dakota | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ohio | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Oklahoma. | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Oregon . | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pennsylvania | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rhode Island | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| South Carolina | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| South Dakota | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tennessee | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Texas | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Utah | 73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vermont | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Virginia . | 0 | 0 | 346 | 1 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Washington. | 0 | 0 | 0 | 200 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| West Virginia | 0 | 0 | 2 | 0 | 214 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Wisconsin. | 0 | 0 | 2 | 1 | 0 | 488 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Wyoming. | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Puerto Rico. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 51 | 0 | 0 | 0 | 2 | 0 | 1 | 1 |
| Guam . . . . . . . . . . . . . . . . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 |
| American Samoa . . . . . . . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| U.S. Virgin Islands . . . . . . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other U.S. trusts and possessions | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Canada. | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 43 | 0 | 3 |
| Mexico | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 183 | 3 |
| All other responses . . . . . | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 815 |

[^27] hospitalized, or temporarily absent, deceased, and so forth).

Table D.8. Census Question P12—How Much School Has This Person Completed?-Unedited, Total Persons: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | $\begin{array}{r} \text { Not } \\ \text { reported } \end{array}$ | Reported | 1 | 2 | 3 | 4 | 5 | 6 |
| Total | 29,647 | 2,641 | 27,006 | 1,929 | 430 | 426 | 1,748 | 2,931 | 954 |
| Not reported ${ }^{2}$. | 7,971 | 1,224 | 6,747 | 372 | 69 | 165 | 991 | 1,541 | 371 |
| Reported | 21,676 | 1,417 | 20,259 | 1,557 | 361 | 261 | 757 | 1,390 | 583 |
| Item responses: |  |  |  |  |  |  |  |  |  |
| 1. No School Completed. | 1,800 | 137 | 1,663 | 1,392 | 200 | 13 | 16 | 15 | 4 |
| 2. Nursery School | 356 | 21 | 335 | 74 | 140 | 109 | 12 | 0 | 0 |
| 3. Kindergarten . | 233 | 15 | 218 | 16 | 18 | 102 | 70 | 3 | 0 |
| 4. 1st, 2nd, 3rd, or 4th grade | 876 | 74 | 802 | 13 | 0 | 34 | 585 | 103 | 8 |
| 5. 5th, 6th, 7th, or 8th grade. | 1,484 | 132 | 1,352 | 32 | 1 | 0 | 57 | 1,030 | 120 |
| 6. 9th grade | 707 | 53 | 654 | 2 | 0 | 0 | 1 | 89 | 284 |
| 7. 10th grade. | 1,097 | 86 | 1,011 | 4 | 1 | 1 | 4 | 39 | 101 |
| 8. 11th grade. | 1,172 | 79 | 1,093 | 3 | 0 | 0 | 3 | 25 | 21 |
| 9. 12th grade, NO DIPLOMA | 144 | 11 | 133 | 0 | 0 | 0 | 1 | 7 | 4 |
| 10. High School Graduate. | 6,044 | 386 | 5,658 | 16 | 1 | 0 | 6 | 57 | 33 |
| 11. Some college but no degree. | 3,465 | 244 | 3,221 | 3 | 0 | 1 | 2 | 6 | 4 |
| 12. Associate degree-occupational program | 370 | 15 | 355 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13. Associate degree -academic program | 356 | 12 | 344 | 0 | 0 | 0 | 0 | 1 | 0 |
| 14. Bachelor's degree. | 2,371 | 104 | 2,267 | 1 | 0 | 1 | 0 | 2 | 0 |
| 15. Master's degree . | 780 | 32 | 748 | 1 | 0 | 0 | 0 | 0 | 0 |
| 16. Professional school degree. | 222 | 10 | 212 | 0 | 0 | 0 | 0 | 4 | 0 |
| 17. Doctorate degree . . . . . . . . . . . . . | 199 | 6 | 193 | 0 | 0 | 0 | 0 | 9 | 4 |

${ }^{1}$ Not reported includes individual item nonresponse.
${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth).

Table D.8. Census Question P12—How Much School Has This Person Completed?-Unedited, Total Persons: 1990 Census-Con.

| Reinterview classification | Census classification-Con. |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| Total | 1,239 | 1,139 | 756 | 6,452 | 4,037 | 613 | 533 | 2,541 | 830 | 308 | 140 |
| Not reported ${ }^{2}$. | 278 | 271 | 195 | 1,042 | 717 | 116 | 112 | 350 | 81 | 52 | 24 |
| Reported. . | 961 | 868 | 561 | 5,410 | 3,320 | 497 | 421 | 2,191 | 749 | 256 | 116 |
| Item responses: |  |  |  |  |  |  |  |  |  |  |  |
| 1. No school completed | 0 | 5 | 2 | 10 | 4 | 0 | 0 | 1 | 0 | 1 | 0 |
| 2. Nursery school | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3. Kindergarten | 3 | 3 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 4. 1st, 2nd, 3rd, or 4th grade. | 7 | 6 | 2 | 39 | 4 | 0 | 1 | 0 | 0 | 0 | 0 |
| 5. 5th, 6th, 7th, or 8th grade . | 42 | 16 | 20 | 27 | 3 | 3 | 1 | 0 | 0 | 0 | 0 |
| 6. 9th grade . | 208 | 34 | 14 | 17 | 3 | 2 | 0 | 0 | 0 | 0 | 0 |
| 7. 10th grade | 490 | 249 | 41 | 70 | 7 | 3 | 0 | 1 | 0 | 0 | 0 |
| 8. 11th grade | 133 | 425 | 163 | 270 | 38 | 6 | 1 | 2 | 1 | 2 | 0 |
| 9. 12th grade, NO DIPLOMA | 2 | 14 | 15 | 76 | 12 | 2 | 0 | 0 | 0 | 0 | 0 |
| 10. High school graduate. | 66 | 101 | 256 | 4,389 | 621 | 65 | 15 | 18 | 2 | 12 | 0 |
| 11. Some college but no degree. | 8 | 10 | 40 | 451 | 2,412 | 138 | 74 | 56 | 2 | 14 | 0 |
| 12. Associate degree-occupational program | 0 | 1 | 2 | 11 | 60 | 182 | 92 | 4 | 0 | 3 | 0 |
| 13. Associate degree -academic program | 0 | 1 | 1 | 8 | 59 | 56 | 200 | 17 | 0 | 0 | 1 |
| 14. Bachelor's degree . | 1 | 2 | 5 | 25 | 77 | 24 | 32 | 2,032 | 36 | 26 | 3 |
| 15. Master's degree. | 0 | 0 | 0 | 3 | 5 | 0 | 3 | 46 | 681 | 6 | 3 |
| 16. Professional school degree . | 0 | 0 | 0 | 11 | 15 | 16 | 2 | 10 | 20 | 129 | 5 |
| 17. Doctorate degree. | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 3 | 7 | 63 | 104 |

${ }^{1}$ Not reported includes individual item nonresponse.
${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth).

Table D.9. Census Question P9—Is This Person a Citizen of the United States?-Unedited, Total Persons: 1990
Census

| Reinterview classification | Census classification |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported | 1 | 2 | 3 | 4 | 5 |
| Total | 29,647 | 2,238 | 27,409 | 25,459 | 117 | 136 | 747 | 950 |
| Not reported ${ }^{2}$ | 4,698 | 695 | 4,003 | 3,565 | 26 | 36 | 133 | 243 |
| Reported. . | 24,949 | 1,543 | 23,406 | 21,894 | 91 | 100 | 614 | 707 |
| Item responses: |  |  |  |  |  |  |  |  |
| 1. Yes, born in the United States . . . . . . . | 23,336 | 1,374 | 21,962 | 21,848 | 20 | 21 | 59 | 14 |
| 2. Yes, born in Puerto Rico, Guam, the U.S. Virgin Islands, or Northern Marianas | 91 | 8 | 83 | 9 | 66 | 2 | 3 | 3 |
| 3. Yes, born abroad of American parent or parents | 100 | 9 | 91 | 4 | 0 | 62 | 21 | 4 |
| 4. Yes, U.S. citizen by naturalization . . . | 604 | 51 | 553 | 19 | 4 | 11 | 477 | 42 |
| 5. No, not a citizen of the United States . | 818 | 101 | 717 | 14 | 1 | 4 | 54 | 644 |

[^28]Table D.10. Census Question P13-What Is This Person's Ancestry or Ethnic Origin?-Edited: 1990 Census (Single Response Only)

| Reinterview classification | Census classification |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported | $\begin{array}{r} \text { Re- } \\ \text { ported }^{3} \end{array}$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Total | 27,983 | 11,140 | 16,843 | 76 | 25 | 22 | 24 | 57 | 53 | 164 | 1,287 | 29 | 244 |
| Not reported ${ }^{2}$ | 18,444 | 9,114 | 9,330 | 51 | 5 | 15 | 20 | 20 | 28 | 85 | 793 | 13 | 164 |
| Reported ${ }^{3} . . . . . . . . . . .$. | 9,539 | 2,026 | 7,513 | 25 | 20 | 7 | 4 | 37 | 25 | 79 | 494 | 16 | 80 |
| Item responses: . . . . . |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Arab. | 30 | 3 | 27 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2. Austrian. | 28 | 6 | 22 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3. Belgian | 10 | 3 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4. Canadian. | 21 | 6 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 5. Czech. | 59 | 6 | 53 | 0 | 0 | 0 | 0 | 30 | 0 | 0 | 0 | 0 | 0 |
| 6. Danish | 31 | 10 | 21 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 1 | 0 | 0 |
| 7. Dutch.. | 133 | 46 | 87 | 0 | 0 | 0 | 0 | 0 | 0 | 62 | 3 | 0 | 0 |
| 8. English. | 680 | 200 | 480 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 317 | 0 | 0 |
| 9. Finnish............... | 15 | 2 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 |
| 10. French (except Basque) ..... | 183 | 56 | 127 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 60 |
| 11. French Canadian. | 44 | 8 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 5 |
| 12. German. | 1,697 | 355 | 1,342 | 0 | 1 | 0 | 0 | 0 | 1 | 5 | 22 | 0 | 6 |
| 13. Greek. | 28 | 3 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14. Hungarian. | 61 | 9 | 52 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 15. Irish .................. | 812 | 207 | 605 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 1 | 2 |
| 16. Italian................ | 498 | 68 | 430 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 1 |
| 17. Lithuanian............ | 20 | 3 | 17 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 18. Norwegian | 126 | 23 | 103 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 19. Polish... | 265 | 38 | 227 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 20. Portuguese . . . . . . . . . | 45 | 6 | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21. Romanian . | 13 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22. Russian . | 88 | 23 | 65 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23. Scotch-Irish | 89 | 22 | 67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 |
| 24. Scottish.............. | 142 | 40 | 102 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 |
| 25. Slovak. | 38 | 9 | 29 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 26. Subsaharan African ... | 64 | 7 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 27. Swedish ............. | 95 | 27 | 68 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 28. Swiss. | 18 | 4 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 29. Ukrainian. . | 24 | 2 | 22 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30. United States or American | 773 | 259 | 514 | 0 | 0 | 0 | 3 | 1 | 1 | 1 | 37 | 0 | 1 |
| 31. Welsh | 32 | 9 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 |
| 32. West Indian | 68 | 6 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33. Yugoslavian .......... | 21 | 3 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 34. Race or Hispanic origin groups. | 2,156 | 229 | 1,927 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 9 | 0 | 0 |
| 35. Other groups ........ | 606 | 100 | 506 | 1 | 3 | 0 | 0 | 3 | 1 | 2 | 17 | 2 | 1 |
| 36. Unclassified | 526 | 228 | 298 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 42 | 0 | 4 |

[^29]Table D.10. Census Question P13-What Is This Person's Ancestry or Ethnic Origin?—Edited: 1990 Census (Single Response Only)-Con.

| Reinterview classification | Census classification-Con. |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| Total. | 203 | 2,948 | 56 | 85 | 1,486 | 810 | 35 | 197 | 448 | 72 | 17 | 115 | 396 | 191 |
| Not reported ${ }^{2}$. | 115 | 1,590 | 31 | 35 | 902 | 376 | 17 | 105 | 219 | 30 | 6 | 53 | 298 | 120 |
| Reported ${ }^{3}$........... | 88 | 1,358 | 25 | 50 | 584 | 434 | 18 | 92 | 229 | 42 | 11 | 62 | 98 | 71 |
| Item responses: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Arab. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2. Austrian | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3. Belgian | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4. Canadian | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 5. Czech | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6. Danish. . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7. Dutch | 0 | 10 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 8. English | 1 | 20 | 0 | 1 | 27 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 6 | 3 |
| 9. Finnish | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10. French (except Basque) | 38 | 3 | 0 | 0 | 2 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 11. French Canadian .... | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12. German | 0 | 1,189 | 0 | 1 | 13 | 2 | 0 | 1 | 3 | 0 | 0 | 2 | 3 | 1 |
| 13. Greek | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14. Hungarian | 0 | 1 | 0 | 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15. Irish. | 2 | 20 | 0 | 0 | 436 | 3 | 0 | 0 | 1 | 1 | 0 | 0 | 25 | 5 |
| 16. Italian | 0 | 2 | 0 | 0 | 2 | 412 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 17. Lithuanian | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 18. Norwegian | 0 | 5 | 0 | 0 | 0 | 0 | 1 | 85 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19. Polish . | 0 | 1 | 0 | 0 | 2 | 1 | 0 | 0 | 215 | 0 | 0 | 2 | 0 | 0 |
| 20. Portuguese | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 39 | 0 | 0 | 0 | 0 |
| 21. Romanian. | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 |
| 22. Russian | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 43 | 0 | 0 |
| 23. Scotch-Irish | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 2 |
| 24. Scottish | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 54 |
| 25. Slovak. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26. Subsaharan African.. | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 27. Swedish. | 0 | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 28. Swiss | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 29. Ukrainian | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30. United States or American | 3 | 36 | 0 | 0 | 39 | 7 | 0 | 1 | 1 | 0 | 0 | 4 | 5 | 4 |
| 31. Welsh . | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 32. West Indian . . . . . . . . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33. Yugoslavian.. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 34. Race or Hispanic origin groups | 1 | 6 | 0 | 0 | 3 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 |
| 35. Other groups . . . . . . . | 0 | 10 | 0 | 0 | 2 | 2 | 2 | 5 | 1 | 1 | , | 9 | 1 | 0 |
| 36. Unclassified ........ | 3 | 37 | 0 | 0 | 27 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 |

[^30]Table D.10. Census Question P13-What Is This Person's Ancestry or Ethnic Origin?-Edited: 1990 Census (Single Response Only)-Con.

| Reinterview classification | Census classification-Con. |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 |
| Total. | 91 | 36 | 150 | 24 | 44 | 1,552 | 50 | 103 | 41 | 4,505 | 972 | 335 |
| Not reported ${ }^{2}$ | 43 | 14 | 83 | 12 | 19 | 978 | 33 | 40 | 21 | 2,347 | 485 | 64 |
| Reported ${ }^{3}$ | 48 | 22 | 67 | 12 | 25 | 574 | 17 | 63 | 20 | 2,158 | 487 | 71 |
| Item responses: |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Arab.. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 |
| 2. Austrian. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 |
| 3. Belgian | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4. Canadian | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5. Czech | 13 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 2 | 1 | 0 |
| 6. Danish. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7. Dutch. | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 1 | 0 | 2 |
| 8. English | 1 | 0 | 2 | 0 | 0 | 56 | 3 | 1 | 0 | 13 | 17 | 10 |
| 9. Finnish. . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10. French (except Basque). | 0 | 0 | 1 | 0 | 0 | 7 | 0 | 0 | 0 | 6 | 1 | 1 |
| 11. French Canadian | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 12. German. . | 1 | 0 | 2 | 1 | 0 | 50 | 1 | 0 | 0 | 13 | 15 | 9 |
| 13. Greek | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14. Hungarian. | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15. Irish | 0 | 0 | 0 | 0 | 0 | 64 | 0 | 0 | 0 | 16 | 5 | 4 |
| 16. Italian | 0 | 0 | 0 | 1 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17. Lithuanian. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18. Norwegian | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 7 | 0 |
| 19. Polish | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 3 | 1 | 0 |
| 20. Portuguese. . . . . . . . . . . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21. Romanian. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22. Russian. | 2 | 0 | 0 | 0 | 6 | 3 | 0 | 0 | 0 | 0 | 8 | 0 |
| 23. Scotch-lrish | 0 | 0 | 2 | 0 | 0 | 4 | 0 | 0 | 0 | 3 | 2 | 0 |
| 24. Scottish. | 0 | 0 | 1 | 0 | 0 | 8 | 0 | 0 | 0 | 4 | 0 | 1 |
| 25. Slovak. | 25 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 26. Subsaharan African | 0 | 11 | 0 | 0 | 0 | 4 | 0 | 4 | 0 | 35 | 1 | 0 |
| 27. Swedish | 1 | 0 | 51 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 3 | 0 |
| 28. Swiss. | 0 | 0 | 0 | 10 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 29. Ukrainian | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 30. United States or American. | 1 | 0 | 4 | 0 | 0 | 183 | 0 | 0 | 0 | 153 | 11 | 18 |
| 31. Welsh | 0 | 0 | 0 | 0 | 0 | 4 | 11 | 0 | 0 | 0 | 2 | 0 |
| 32. West Indian | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 54 | 0 | 2 | 4 | 0 |
| 33. Yugoslavian.. | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 2 | 0 |
| 34. Race or Hispanic origin groups. | 0 | 11 | 0 | 0 | 0 | 59 | 1 | 3 | 0 | 1,819 | 6 | 3 |
| 35. Other groups . . . . . . . | 2 | 0 | 4 | 0 | 0 | 15 | 0 | 1 | 2 | 24 | 391 | 3 |
| 36. Unclassified | 0 | 0 | 0 | 0 | 0 | 91 | 1 | 0 | 0 | 59 | 2 | 20 |

${ }^{1}$ Not reported includes individual item nonresponse. If a respondent gave more than one ancestry, they were also included in the not reported category.
${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and the noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). If a respondent gave more than one ancestry, they were also included in the not reported category.
${ }^{3}$ Reported includes a single response for both census and reinterview.

Table D.11. Census Question P13-What Is This Person's Ancestry or Ethnic Origin?-Edited, Total Persons: 1990 Census (STF 3 Categories, Used First Response in CRS and Census)


[^31]Table D.11. Census Question P13-What Is This Person's Ancestry or Ethnic Origin?-Edited, Total Persons: 1990 Census (STF 3 Categories Used First Response in CRS and Census)-Con.

| Reinterview classification | Census classification-Con. |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| Total | 269 | 5,816 | 80 | 149 | 2,745 | 1,293 | 49 | 374 | 789 | 84 | 30 | 192 |
| Not reported ${ }^{2}$. | 119 | 2,300 | 40 | 51 | 1,144 | 501 | 20 | 133 | 314 | 31 | 9 | 56 |
| Reported. . | 150 | 3,516 | 40 | 98 | 1,601 | 792 | 29 | 241 | 475 | 53 | 21 | 136 |
| Item responses: |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Arab. | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 |
| 2. Austrian . | 0 | 5 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 1 |
| 3. Belgian | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4. Canadian . | 12 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 5. Czech | 2 | 10 | 0 | 0 | 3 | 1 | 1 | 0 | 1 | 1 | 0 | 0 |
| 6. Danish. | 0 | 5 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 7. Dutch. . | 0 | 47 | 0 | 0 | 21 | 0 | 0 | 1 | 2 | 0 | 0 | 0 |
| 8. English. . | 7 | 160 | 1 | 2 | 100 | 12 | 0 | 4 | 7 | 1 | 0 | 3 |
| 9. Finnish. . | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10. French (except Basque) . . | 62 | 49 | 0 | 2 | 36 | 10 | 0 | 3 | 7 | 0 | 0 | 1 |
| 11. French Canadian. | 38 | 3 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 12. German | 5 | 2,550 | 1 | 4 | 124 | 35 | 1 | 28 | 28 | 0 | 1 | 7 |
| 13. Greek. | 0 | 1 | 36 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 14. Hungarian | 0 | 8 | 0 | 80 | 2 | 1 | 0 | 0 | 4 | 0 | 0 | 0 |
| 15. Irish | 6 | 190 | 1 | 3 | 990 | 18 | 0 | 4 | 12 | 0 | 0 | 0 |
| 16. Italian. . | 1 | 47 | 0 | 0 | 31 | 659 | 0 | 0 | 9 | 0 | 0 | 2 |
| 17. Lithuanian | 0 | 1 | 0 | 0 | 0 | 1 | 19 | 0 | 0 | 0 | 0 | 1 |
| 18. Norwegian | 1 | 28 | 0 | 0 | 7 | 0 | 1 | 173 | 0 | 0 | 0 | 0 |
| 19. Polish. . | 2 | 20 |  | 0 | 12 | 9 | 1 | 2 | 356 | 0 | 0 | 12 |
| 20. Portuguese | 0 | 3 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 46 | 0 | 0 |
| 21. Romanian | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 13 | 0 |
| 22. Russian . | 1 | 13 | 0 | 1 | 1 | 1 | 0 | 0 | 6 | 0 | 2 | 86 |
| 23. Scotch-lrish | 0 | 10 | 0 | 0 | 32 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 24. Scottish . | 1 | 66 | 0 | 0 | 54 | 2 | 0 | 3 | 2 | 0 | 0 | 0 |
| 25. Slovak | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 |
| 26. Subsaharan African. . | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 27. Swedish. . | 0 | 24 | 0 | 0 | 6 | 0 | 1 | 5 | 2 | 0 | 0 | 1 |
| 28. Swiss... | 0 | 17 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 29. Ukrainian | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| 30. United States or American. . | 6 | 81 | 0 | 0 | 62 | 14 | 0 | 3 | 6 | 1 | 0 | 6 |
| 31. Welsh | 0 | 5 | 0 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 32. West Indian . | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33. Yugoslavian. . | 0 | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 34. Race or Hispanic origin groups . | 2 | 44 | 0 | 0 | 47 | 9 | 0 | 1 | 3 | 1 | 0 | 0 |
| 35. Other groups . . . . . . . | 0 | 48 | 0 | 3 | 14 | 4 | 3 | 13 | 14 | 1 | 3 | 14 |
| 36. Unclassified | 3 | 64 | 0 | 0 | 47 | 6 | 0 | 0 | 5 | 0 | 0 | 0 |

${ }^{1}$ Not reported includes individual item nonresponse. This item is not allocated, however, it is edited. Not reported responses were put into the "unclassified" category.
${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth).

Table D.11. Census Question P13-What Is This Person's or Ethnic Origin?-Edited, Total Persons: 1990 Census (STF 3 Categories, Used First Response in CRS and Census)-Con.

| Reinterview classification | Census classification-Con. |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 |
| Total | 595 | 408 | 134 | 37 | 345 | 81 | 63 | 1,552 | 128 | 107 | 54 | 4,882 | 1,131 | 2,429 |
| Not reported ${ }^{2}$. | 215 | 151 | 44 | 14 | 143 | 26 | 23 | 725 | 49 | 37 | 21 | 2,234 | 463 | 1,231 |
| Reported | 380 | 257 | 90 | 23 | 202 | 55 | 40 | 827 | 79 | 70 | 33 | 2,648 | 668 | 1,198 |
| Item responses: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Arab | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 1 |
| 2. Austrian. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 | 5 |
| 3. Belgian | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 4 |
| 4. Canadian. | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 2 | 1 | 3 |
| 5. Czech | 0 | 2 | 16 | 0 | 1 | 2 | 0 | 2 | 0 | 0 | 2 | 3 | 3 | 1 |
| 6. Danish. | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 2 | 2 | 0 | 0 | 2 | 1 | 3 |
| 7. Dutch | 8 | 2 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 2 | 5 | 30 |
| 8. English | 29 | 30 | 2 | 0 | 10 | 4 | 0 | 90 | 14 | 1 | 0 | 32 | 40 | 107 |
| 9. Finnish | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10. French (except Basque) | 3 | 3 | 0 | 0 | 3 | 3 | 0 | 18 | 3 | 1 | 0 | 24 | 4 | 50 |
| 11. French Canadian. | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 3 | 2 | 2 |
| 12. German. | 19 | 26 | 3 | 0 | 13 | 9 | 0 | 111 | 7 | 0 | 0 | 49 | 30 | 211 |
| 13. Greek | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 14. Hungarian | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 2 | 3 |
| 15. Irish.. | 74 | 15 | 1 | 0 | 8 | 4 | 2 | 105 | 8 | 0 | 0 | 63 | 11 | 129 |
| 16. Italian | 0 | 3 | 4 | 0 | 3 | 3 | 0 | 17 | 1 | 0 | 0 | 8 | 2 | 17 |
| 17. Lithuanian | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 18. Norwegian. | 1 | 2 | 0 | 0 | 4 | 0 | 0 | 5 | 0 | 0 | 0 | 3 | 18 | 4 |
| 19. Polish | 1 | 1 | 3 | 0 | 0 | 0 | 2 | 5 | 0 | 0 | 0 | 8 | 5 | 12 |
| 20. Portuguese | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| 21. Romanian | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 22. Russian. . | 0 | 0 | 3 | 0 | 0 | 0 | 7 | 5 | 0 | 0 | 0 | 4 | 13 | 11 |
| 23. Scotch-lrish. | 64 | 6 | 0 | 0 | 5 | 0 | 0 | 7 | 1 | 0 | 0 | 3 | 2 | 3 |
| 24. Scottish. | 147 | 150 | 1 | 0 | 3 | 1 | 0 | 26 | 1 | 0 | 0 | 15 | 2 | 26 |
| 25. Slovak. | 0 | 0 | 41 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 1 | 2 | 3 |
| 26. Subsaharan African. | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 4 | 0 | 4 | 0 | 41 | 1 | 6 |
| 27. Swedish. . | 1 | 2 | 2 | 0 | 132 | 3 | 1 | 5 | 1 | 0 | 0 | 4 | 7 | 10 |
| 28. Swiss. | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 |
| 29. Ukrainian . | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 30. United States or American | 12 | 5 | 3 | 0 | 8 | 0 | 0 | 186 | 1 | 0 | 0 | 177 | 13 | 161 |
| 31. Welsh | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 34 | 0 | 0 | 1 | 2 | 1 |
| 32. West Indian. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 57 | 0 | 5 | 4 | 4 |
| 33. Yugoslavian. . | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 24 | 0 | 4 | 0 |
| 34. Race or Hispanic origin groups. | 6 | 4 | 0 | 11 | 0 | 0 | 1 | 80 | 3 | 4 | 1 | 2,068 | 9 | 166 |
| 35. Other groups. | 2 | 0 | 3 | 0 | 9 | 1 | 2 | 24 | 0 | 3 | 4 | 57 | 470 | 54 |
| 36. Unclassified | 7 | 2 | 0 | 0 | 1 | 0 | 0 | 95 | 2 | 0 | 0 | 70 | 3 | 165 |

[^32]Table D.12. Census Question P13-What Is This Person's Ancestry or Ethnic Origin?-Edited, Total Persons: 1990 Census ( 34 Largest Categories, Used First Response in CRS and Census)

| Reinterview classification | Census classification |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported | Reported | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Total | 27,983 | 0 | 27983 | 5,816 | 2,742 | 2,526 | 2,381 | 1,293 | 1,551 | 992 | 732 | 789 |
| Not reported ${ }^{2}$. | 11,711 | 0 | 11,711 | 2,300 | 1,143 | 970 | 1,063 | 501 | 725 | 468 | 308 | 314 |
| Reported... | 16,272 | 0 | 16,272 | 3,516 | 1,599 | 1,556 | 1,318 | 792 | 826 | 524 | 424 | 475 |
| Item responses: |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. German | 3,535 | 0 | 3,535 | 2,550 | 124 | 163 | 5 | 35 | 111 | 3 | 39 | 28 |
| 2. lrish . | 1,830 | 0 | 1,830 | 190 | 989 | 118 | 1 | 18 | 105 | 3 | 43 | 12 |
| 3. English. | 1,570 | 0 | 1,570 | 160 | 100 | 861 | 4 | 12 | 89 | 3 | 25 | 7 |
| 4. Afro-American | 1,216 | 0 | 1,216 | 3 | 1 | 3 | 1,059 | 0 | 34 | 1 | 2 | 0 |
| 5. Italian. | 830 | 0 | 830 | 47 | 31 | 12 | 0 | 659 | 17 | 0 | 9 | 9 |
| 6. American . | 822 | 0 | 822 | 81 | 61 | 56 | 114 | 14 | 186 | 9 | 7 | 6 |
| 7. Mexican. . | 539 | 0 | 539 | 4 | 1 | 2 | 3 | 3 | 2 | 441 | 1 | 0 |
| 8. French. | 565 | 0 | 565 | 48 | 36 | 42 | 2 | 10 | 18 | 4 | 238 | 7 |
| 9. Polish. . | 469 | 0 | 469 | 20 | 12 | 8 | 3 | 9 | 5 | 0 | 4 | 356 |
| 10. American Indian. | 305 | 0 | 305 | 30 | 38 | 21 | 17 | 2 | 40 | 6 | 4 | 1 |
| 11. Dutch. | 312 | 0 | 312 | 47 | 21 | 24 | 0 | 0 | 18 | 0 | 5 | 2 |
| 12. Scotch Irish | 148 | 0 | 148 | 10 | 32 | 11 | 0 | 1 | 7 | 0 | 1 | 0 |
| 13. Scottish. | 589 | 0 | 589 | 66 | 53 | 77 | 0 | 2 | 26 | 1 | 2 | 2 |
| 14. Swedish. | 227 | 0 | 227 | 24 | 6 | 10 | 1 | 0 | 5 | 0 | 2 | 2 |
| 15. Norwegian . | 263 | 0 | 263 | 28 | 7 | 6 | 0 | 0 | 5 | 0 | 4 | 0 |
| 16. Russian . | 161 | 0 | 161 | 13 | 1 | 4 | 0 | 1 | 5 | 0 | 0 | 6 |
| 17. French Canadian . | 55 | 0 | 55 | 2 | 1 | 3 | 0 | 0 | 2 | 0 | 11 | 0 |
| 18. Welsh | 74 | 0 | 74 | 5 | 2 | 13 | 0 | 1 | 9 | 0 | 0 | 1 |
| 19. Spanish. | 31 | 0 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 1 | 0 |
| 20. Puerto Rican | 88 | 0 | 88 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| 21. Slovak | 60 | 0 | 60 | 2 | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 2 |
| 22. White | 29 | 0 | 29 | 3 | 0 | 7 | 0 | 0 | 1 | 0 | 0 | 1 |
| 23. Danish | 73 | 0 | 73 | 5 | 1 | 7 | 0 | 0 | 2 | 1 | 0 | 0 |
| 24. Hungarian | 111 | 0 | 111 | 8 | 2 | 4 | 0 | 1 | 2 | 0 | 0 | 4 |
| 25. Chinese . | 82 | 0 | 82 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26. Filipino . . | 74 | 0 | 74 | 0 | 0 | 1 | 0 | 0 | 0 | 5 | 0 | 1 |
| 27. Czech | 96 | 0 | 96 | 10 | 3 | 1 | 0 | 1 | 2 | 0 | 0 | 1 |
| 28. Portuguese | 57 | 0 | 57 | 3 | 1 | 0 | 0 | 2 | 1 | 0 | 1 | 0 |
| 29. British | 48 | 0 | 48 | 4 | 4 | 12 | 0 | 0 | 2 | 0 | 3 | 0 |
| 30. Hispanic. | 25 | 0 | 25 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 |
| 31. Greek | 42 | 0 | 42 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| 32. Swiss | 53 | 0 | 53 | 17 | 3 | 2 | 0 | 0 | 1 | 0 | 1 | 0 |
| 33. Japanese. | 55 | 0 | 55 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 34. Other. | 1,838 | 0 | 1,838 | 134 | 68 | 85 | 106 | 18 | 131 | 32 | 21 | 26 |

[^33]Table D.12. Census Question P13-What Is This Person's Ancestry or Ethnic Origin?-Edited, Total Persons: 1990 Census ( 34 Largest Categories, Used First Response in CRS and Census)-Con.

| Reinterview classification | Census classification-Con. |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| Total. | 505 | 424 | 595 | 408 | 345 | 374 | 192 | 200 | 128 | 26 | 157 | 134 | 238 |
| Not reported ${ }^{2}$ | 234 | 156 | 215 | 151 | 143 | 133 | 56 | 85 | 49 | 10 | 69 | 44 | 121 |
| Reported... | 271 | 268 | 380 | 257 | 202 | 241 | 136 | 115 | 79 | 16 | 88 | 90 | 117 |
| Item responses: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. German | 26 | 41 | 19 | 26 | 13 | 28 | 7 | 4 | 7 | 1 | 0 | 3 | 11 |
| 2. Irish | 38 | 15 | 74 | 15 | 8 | 4 | 0 | 4 | 8 | 0 | 1 | 1 | 19 |
| 3. English . | 6 | 16 | 29 | 30 | 10 | 4 | 3 | 7 | 14 | 0 | 0 | 2 | 15 |
| 4. Afro-American | 6 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 5. Italian . | 2 | 1 | 0 | 3 | 3 | 0 | 2 | 1 | 1 | 0 | 1 | 4 | 1 |
| 6. American | 25 | 6 | 12 | 5 | 8 | 3 | 6 | 4 | 1 | 0 | 1 | 3 | 20 |
| 7. Mexican | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 |
| 8. French | 8 | 2 | 3 | 3 | 3 | 3 | 1 | 48 | 3 | 0 | 0 | 0 | 8 |
| 9. Polish . | 0 | 0 | 1 | 1 | 0 | 2 | 12 | 2 | 0 | 0 | 0 | 3 | 4 |
| 10. American Indian . | 94 | 3 | 4 | 2 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 6 |
| 11. Dutch | 1 | 146 | 8 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 12. Scotch Irish | 0 | 1 | 64 | 6 | 5 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 3 |
| 13. Scottish | 7 | 7 | 147 | 150 | 3 | 3 | 0 | 0 | 1 | 0 | 0 | 1 | 6 |
| 14. Swedish | 1 | 2 | 1 | 2 | 132 | 5 | 1 | 0 | 1 | 0 | 0 | 2 | 2 |
| 15. Norwegian | 2 | 3 | 1 | 2 | 4 | 173 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 16. Russian | 1 | 1 | 0 | 0 | 0 | 0 | 86 | 1 | 0 | 0 | 0 | 3 | 3 |
| 17. French Canadian | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 1 |
| 18. Welsh. | 1 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 34 | 0 | 0 | 0 | 0 |
| 19. Spanish | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 1 | 0 | 0 |
| 20. Puerto Rican | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 65 | 0 | 0 |
| 21. Slovak | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 41 | 0 |
| 22. White | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 9 |
| 23. Danish | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 |
| 24. Hungarian. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| 25. Chinese | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26. Filipino | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 27. Czech. | 1 | 1 | 0 | 2 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 16 | 2 |
| 28. Portuguese. | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 29. British. . | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 30. Hispanic . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 |
| 31. Greek | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 32. Swiss | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33. Japanese | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 34. Other | 48 | 15 | 11 | 4 | 10 | 13 | 18 | 15 | 3 | 8 | 11 | 9 | 2 |

${ }^{1}$ Not reported includes individual item nonresponse. This item is not allocated, however, it is edited. Not reported responses were put into the "other" category.
${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth).

Table D.12. Census Question P13-What Is This Person's Ancestry or Ethnic Origin?-Edited, Total Persons: 1990 Census ( 34 Largest Categories, Used First Response in CRS and Census)-Con.


${ }^{1}$ Not reported includes individual item nonresponse. This item is not allocated, however, it is edited. Not reported responses were put into the "other" category.
${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth).

Table D.13. Census Question P15A-Does This Person Speak a Language Other Than English at Home?Unedited, Total Persons: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported | 1 | 2 |
| Total | 29,647 | 3,804 | 25,843 | 2,834 | 23,009 |
| Not reported ${ }^{2}$ | 6,236 | 2,145 | 4,091 | 628 | 3,463 |
| Reported | 23,411 | 1,659 | 21,752 | 2,206 | 19,546 |
| Item responses: |  |  |  |  |  |
| 1. Yes | 2,472 | 269 | 2,203 | 1,672 | 531 |
| 2. No. | 20,939 | 1,390 | 19,549 | 534 | 19,015 |

${ }^{1}$ Not reported includes individual item nonresponse.
${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth).

Table D.14. Census Question P15C—How Well Does This Person Speak English?—Unedited: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported | 1 | 2 | 3 | 4 |
| Total | 29,647 | 22,192 | 7,455 | 5,561 | 1,267 | 440 | 187 |
| Not reported ${ }^{2}$ | 27,170 | 21,549 | 5,621 | 4,548 | 798 | 193 | 82 |
| Reported. | 2,477 | 643 | 1,834 | 1,013 | 469 | 247 | 105 |
| Item responses: |  |  |  |  |  |  |  |
| 1. Very well | 1,434 | 461 | 973 | 759 | 169 | 38 | 7 |
| 2. Well . | 533 | 93 | 440 | 202 | 199 | 39 | 0 |
| 3. Not well. | 359 | 58 | 301 | 46 | 88 | 130 | 37 |
| 4. Not at all | 151 | 31 | 120 | 6 | 13 | 40 | 61 |

[^34]${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This question was asked of only persons who speak a language other than English at home.

Table D.15. Census Question P15B—What Is This Language?-Edited: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Total | 27,983 | 25,070 | 2,913 | 197 | 16 | 16 | 26 | 54 | 133 | 191 | 49 |
| Not reported ${ }^{2}$. | 26,323 | 24,671 | 1,652 | 134 | 15 | 10 | 16 | 32 | 81 | 118 | 30 |
| Reported...................... | 1,660 | 399 | 1,261 | 63 | 1 | 6 | 10 | 22 | 52 | 73 | 19 |
| Item responses: |  |  |  |  |  |  |  |  |  |  |  |
| 1. German | 113 | 51 | 62 | 58 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 2. Yiddish. | 18 | 16 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3. Scandinavian . | 14 | 8 | 6 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 |
| 4. Greek. | 15 | 5 | 10 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 |
| 5. Indic. | 18 | 0 | 18 | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 0 |
| 6. Italian. | 78 | 27 | 51 | 1 | 0 | 0 | 1 | 0 | 49 | 0 | 0 |
| 7. French. | 155 | 74 | 81 | 1 | 0 | 0 | 0 | 0 | 2 | 72 | 0 |
| 8. Portuguese | 24 | 6 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 |
| 9. Spanish.. | 788 | 129 | 659 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 10. Polish. | 52 | 19 | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11. Russian | 12 | 4 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12. Slavic. | 29 | 10 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13. Other Indo-European languages . | 34 | 5 | 29 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14. Arabic | 20 | 2 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15. Tagalog | 46 | 6 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16. Chinese . | 66 | 2 | 64 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17. Hungarian | 21 | 3 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18. Japanese. | 21 | 5 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19. MonKhmer. | 10 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20. Korean. . | 35 | 1 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21. American Indian languages . . . . | 8 | 5 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22. Vietnamese . . | 11 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23. Other languages | 72 | 21 | 51 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |

${ }^{1}$ Not reported includes individual item nonresponse. This was asked of only respondents who said they spoke a language other than English at home.
${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This was asked of only respondents who said they spoke a language other than English at home.

Table D.15. Census Question P15B—What Is This Language?—Edited: 1990 Census—Con.

| Reinterview classification | Census classification-Con. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| Total . | 1,501 | 71 | 20 | 46 | 62 | 45 | 82 | 117 | 38 | 37 | 13 | 65 | 21 | 25 | 88 |
| Not reported ${ }^{2}$ | 834 | 39 | 12 | 26 | 32 | 29 | 43 | 51 | 17 | 20 | 1 | 31 | 18 | 14 | 49 |
| Reported... | 667 | 32 | 8 | 20 | 30 | 16 | 39 | 66 | 21 | 17 | 12 | 34 | 3 | 11 | 39 |
| Item responses: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. German | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2. Yiddish . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3. Scandinavian | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4. Greek | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5. Indic | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6. Italian | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7. French | 3 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 8. Portuguese | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9. Spanish | 656 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10. Polish | 0 | 32 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11. Russian. | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12. Slavic . | 0 | 0 | 0 | 17 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13. Other Indo-European languages. | 0 | 0 | 0 | 0 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14. Arabic. | 2 | 0 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15. Tagalog | 1 | 0 | 0 | 0 | 0 | 0 | 35 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 16. Chinese | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 63 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17. Hungarian. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18. Japanese | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 |
| 19. MonKhmer | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 |
| 20. Korean | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 0 | 0 | 0 |
| 21. American Indianlanguages | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 |
| 22. Vietnamese. . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 |
| 23. Other languages. . | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 38 |

[^35]Table D.16. Census Question P17A-Has This Person Ever Been on Active-Duty Military Service in the Armed Forces of the United States or Ever Been in the United States Military Reserves or the National Guard?-Unedited: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported | 1 | 2 | 3 | 4 |
| Total. | 29,647 | 7,157 | 22,490 | 239 | 3,150 | 381 | 18,720 |
| Not reported ${ }^{2}$ | 9,897 | 5,771 | 4,126 | 50 | 483 | 55 | 3,538 |
| Reported.. | 19,750 | 1,386 | 18,364 | 189 | 2,667 | 326 | 15,182 |
| Item responses: |  |  |  |  |  |  |  |
| 1. Yes, now on active duty. | 99 | ${ }^{3}$ | 96 | 93 | 1 | 2 | 0 |
| 2. Yes, on active duty in past, but not now | 2,930 | 172 | 2,758 | 77 | 2,521 | 65 | 95 |
| 3. Yes, service in Reserves or National Guard only. | 366 | 20 | 346 | 5 | 51 | 245 | 45 |
| 4. No.................................. | 16,355 | 1,191 | 15,164 | 14 | 94 | 14 | 15,042 |

[^36] hospitalized, or temporarily absent, deceased, and so forth). This question was asked of only persons 15 years or older.

Table D.17. Census Question P17B1—Was Active-Duty Military Service During September 1980 or Later?Unedited: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported ${ }^{2}$ | 1 | 2 |
| Total . | 29,647 | 26,497 | 3,150 | 218 | 2,932 |
| Not reported ${ }^{3}$ | 27,220 | 26,186 | 1,034 | 90 | 944 |
| Reported... | 2,427 | 311 | 2,116 | 128 | 1,988 |
| Item responses: |  |  |  |  |  |
| 1. Yes. | 216 | 55 | 161 | 120 | 41 |
| 2. No. | 2,211 | 256 | 1,955 | 8 | 1,947 |

${ }^{1}$ Not reported includes individual item nonresponse. This includes current military personnel and all civilians with no military service.
${ }^{2}$ This question was asked of only persons reporting active-duty military service in the past, but not now; that is, civilian veterans.
${ }^{3}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This includes current military personnel and all civilians with no military service.

Table D.18. Census Question P17B2—Was Active-Duty Military Service During May 1975 to August 1980?— Unedited: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported ${ }^{2}$ | 1 | 2 |
| Total | 29,647 | 26,497 | 3,150 | 227 | 2,923 |
| Not reported ${ }^{3}$ | 27,220 | 26,186 | 1,034 | 76 | 958 |
| Reported | 2,427 | 311 | 2,116 | 151 | 1,965 |
| Item responses: |  |  |  |  |  |
| 1. Yes . | 261 | 34 | 227 | 146 | 81 |
| 2. No. | 2,166 | 277 | 1,889 | 5 | 1,884 |

${ }^{1}$ Not reported includes individual item nonresponse. This includes current military personnel and all civilians with no military service.
${ }^{2}$ This question was asked of only persons reporting active-duty military service in the past, but not now; that is, civilian veterans.
${ }^{3}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This includes current military personnel and all civilians with no military service.

## Table D.19. Census Question P17B3-Was Active-Duty Military Service During Vietnam Era (August 1964 to April 1975)—Unedited: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported ${ }^{2}$ | 1 | 2 |
| Total | 29,647 | 26,497 | 3,150 | 967 | 2,183 |
| Not reported ${ }^{3}$ | 27,220 | 26,186 | 1,034 | 288 | 746 |
| Reported | 2,427 | 311 | 2,116 | 679 | 1,437 |
| Item responses: |  |  |  |  |  |
| 1. Yes. | 825 | 104 | 721 | 665 | 56 |
| 2. No.. | 1,602 | 207 | 1,395 | 14 | 1,381 |

${ }^{1}$ Not reported includes individual item nonresponse. This includes current military personnel and all civilians with no military service.
${ }^{2}$ This question was asked of only persons reporting active-duty military service in the past, but not now; that is, civilian veterans.
${ }^{3}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This includes current military personnel and all civilians with no military service.

Table D.20. Census Question P17B4—Was Active-Duty Military Service During February 1955 to July 1964?— Unedited: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported ${ }^{2}$ | 1 | 2 |
| Total | 29,647 | 26,497 | 3,150 | 499 | 2,651 |
| Not reported ${ }^{3}$ | 27,220 | 26,186 | 1,034 | 140 | 894 |
| Reported. | 2,427 | 311 | 2,116 | 359 | 1,757 |
| Item responses: |  |  |  |  |  |
| 1. Yes. | 685 | 74 | 611 | 353 | 258 |
| 2. No. | 1,742 | 237 | 1,505 | 6 | 1,499 |

[^37]Table D.21. Census Question P17B5-Was Active-Duty Military Service During the Korean Conflict (June 1950 to January 1955)?-Unedited: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported ${ }^{2}$ | 1 | 2 |
| Total | 29,647 | 26,497 | 3,150 | 603 | 2,547 |
| Not reported ${ }^{3}$ | 27,220 | 26,186 | 1,034 | 177 | 857 |
| Reported... | 2,427 | 311 | 2,116 | 426 | 1,690 |
| Item responses: |  |  |  |  |  |
| 1. Yes. | 504 | 53 | 451 | 410 | 41 |
| 2. No. | 1,923 | 258 | 1,665 | 16 | 1,649 |

${ }^{1}$ Not reported includes individual item nonresponse. This includes current military personnel and all civilians with no military service.
${ }^{2}$ This question was asked of only persons reporting active-duty military service in the past, but not now; that is, civilian veterans.
${ }^{3}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This includes current military personnel and all civilians with no military service.

Table D.22. Census Question P17B6-Was Active-Duty Military Service During World War II (September 1940 to July 1947)?-Unedited: 1990 Census

| Reinterview census | Census classification |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported ${ }^{2}$ | 1 | 2 |
| Total | 29,647 | 26,497 | 3,150 | 1,109 | 2,041 |
| Not reported ${ }^{3}$ | 27,220 | 26,186 | 1,034 | 359 | 675 |
| Reported | 2,427 | 311 | 2,116 | 750 | 1,366 |
| Item responses: |  |  |  |  |  |
| 1. Yes | 851 | 88 | 763 | 740 | 23 |
| 2. No. | 1,576 | 223 | 1,353 | 10 | 1,343 |

${ }^{1}$ Not reported includes individual item nonresponse. This includes current military personnel and all civilians with no military service.
${ }^{2}$ This question was asked of only persons reporting active-duty military service in the past, but not now; that is, civilian veterans.
${ }^{3}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This includes current military personnel and all civilians with no military service.

Table D.23. Census Question P17B7-Was Active-Duty Military Service During World War I (April 1917 to November 1918)?-Unedited: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported ${ }^{2}$ | 1 | 2 |
| Total | 29,647 | 26,497 | 3,150 | 9 | 3,141 |
| Not reported ${ }^{3}$ | 27,220 | 26,186 | 1,034 | 8 | 1,026 |
| Reported. | 2,427 | 311 | 2,116 | 1 | 2,115 |
| Item responses: |  |  |  |  |  |
| 1. Yes. | 15 | 0 | 15 | 1 | 14 |
| 2. No. | 2,412 | 311 | 2,101 | 0 | 2,101 |

${ }^{1}$ Not reported includes individual item nonresponse. This includes current military personnel and all civilians with no military service.
${ }^{2}$ This question was asked of only persons reporting active-duty military service in the past, but not now; that is, civilian veterans.
${ }^{3}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This includes current military personnel and all civilians with no military service.

Table D.24. Census Question P17B8—Was Active-Duty Military Service During Any Other Time?—Unedited: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported ${ }^{2}$ | 1 | 2 |
| Total | 29,647 | 26,497 | 3,150 | 57 | 3,093 |
| Not reported ${ }^{3}$ | 27,220 | 26,186 | 1,034 | 29 | 1,005 |
| Reported | 2,427 | 311 | 2,116 | 28 | 2,088 |
| Item responses: |  |  |  |  |  |
| 1. Yes. | 225 | 16 | 209 | 10 | 199 |
| 2. No. | 2,202 | 295 | 1,907 | 18 | 1,889 |

[^38]Table D.25a. Census Question P17C-In Total, How Many Years of Active-Duty Military Service Has This Person Had?-Edited: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported ${ }^{2}$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Total | 27,983 | 24,486 | 3,497 | 295 | 950 | 840 | 764 | 141 | 136 | 40 | 41 | 0 |
| Not reported ${ }^{3}$ | 26,591 | 24,437 | 2,154 | 218 | 604 | 522 | 449 | 87 | 85 | 24 | 19 | 6 |
| Reported. | 1,392 | 49 | 1,343 | 77 | 346 | 318 | 315 | 54 | 51 | 16 | 22 | 4 |
| Item responses: |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. 1 year | 90 | 6 | 84 | 36 | 33 | 7 | 3 | 1 | 2 | 0 | 0 | 1 |
| 2. 2 years | 345 | 15 | 330 | 22 | 244 | 39 | 17 | 1 | 3 | 0 | 2 | 0 |
| 3. 3 years | 316 | 11 | 305 | 12 | 37 | 206 | 41 | 4 | 3 | 1 | 1 | 0 |
| 4. 4 years | 306 | 6 | 300 | 4 | 15 | 41 | 222 | 10 | 6 | 0 | 0 | 1 |
| 5. 5 years | 67 | 1 | 66 | 2 | 3 | 7 | 19 | 24 | 5 | 2 | 2 | 1 |
| 6. 6 years | 52 | 3 | 49 | 0 | 2 | 8 | 5 | 5 | 25 | 2 | 0 | 2 |
| 7. 7 years | 17 | 0 | 17 | 0 | 0 | 1 | 1 | 3 | 2 | 7 | 3 | 0 |
| 8. 8 years | 25 | 2 | 23 | 0 | 2 | 0 | 2 | 2 | 0 | 4 | 9 | 2 |
| 9. 9 years | 9 | 0 | 9 | 1 | 0 | 2 | 0 | 0 | 1 | 0 | 2 | 3 |
| 10. 10 years. | 14 | 0 | 14 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 4 |
| 11. 11 years. | 8 | 0 | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 12. 12 years. | 8 | 0 | 8 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13. 13 years. | 5 | 0 | 5 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14. 14 years. | 5 | 0 | 5 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 15. 15 years. | 4 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16. 16 years. | 5 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17. 17 years. | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18. 18 years. | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19. 19 years. | 7 | 0 | 7 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 20. 20 years. | 34 | 3 | 31 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 21. 21 years. | 18 | 0 | 18 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 22. 22 years. | 9 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 23. 23 years. | 7 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 24. 24 years. | 3 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25. 25 years. | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 26. 26 years. | 7 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 27. 27 years. | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 28. 28 years. | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 29. 29 years. | 2 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30. 30 years. | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 31. 42 years. | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 32. 43 years. | 2 | 0 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 33. 50 years. | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 34. 52 years. | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35.53 years. | 3 | 0 | 3 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 |
| 36. 54 years. | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 37. 60 years. | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 38. 62 years. | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 39. 63 years. | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40. 70 years. | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41. 74 years. | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 42. 88 years. | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |

[^39]Table D.25a. Census Question P17C-In Total, How Many Years Of Active-Duty Military Service Has This Person Had?-Edited: 1990 Census-Con.

${ }^{1}$ Not reported includes individual item nonresponse. This includes current military personnel and all civilians with no military service.
${ }^{2}$ This question was asked of only persons reporting active-duty military service in the past, but not now; that is, civilian veterans.
${ }^{3}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This includes current military personnel and all civilians with no military service.

Table D.25a. Census Question P17C-In Total, How Many Years of Active-Duty Military Service Has This Person Had?-Edited: 1990 Census-Con.

${ }^{1}$ Not reported includes individual item nonresponse. This includes current military personnel and all civilians with no military service.
${ }^{2}$ This question was asked of only persons reporting active-duty military service in the past, but not now; that is, civilian veterans.
${ }^{3}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This includes current military personnel and all civilians with no military service.

Table D.25b. Census Question P17C-In Total, How Many Years of Active-Duty Military Service Has This Person Had?-Edited: 1990 Census (Collapsed to 5 Categories)

| Reinterview classification | Census classification |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported ${ }^{2}$ | 1 | 2 | 3 | 4 | 5 |
| Total . | 27,983 | 24,486 | 3,497 | 295 | 950 | 2,049 | 67 | 136 |
| Not reported ${ }^{3}$ | 26,591 | 24,437 | 2,154 | 218 | 604 | 1,235 | 34 | 63 |
| Reported. | 1,392 | 49 | 1,343 | 77 | 346 | 814 | 33 | 73 |
| Item responses: |  |  |  |  |  |  |  |  |
| 1. Less than 2 years. | 90 | 6 | 84 | 36 | 33 | 14 | 1 | 0 |
| 2. 2 years . | 345 | 15 | 330 | 22 | 244 | 63 | 1 | 0 |
| 3.3 to 10 years | 806 | 23 | 783 | 19 | 59 | 704 | 1 | 0 |
| 4. 11 to 19 years | 46 | 1 | 45 | 0 | 2 | 12 | 24 | 7 |
| 5. 20 years or more | 105 | 4 | 101 | 0 | 8 | 21 | 6 | 66 |

${ }^{1}$ Not reported includes individual item nonresponse. This includes current military personnel and all civilians with no military service.
${ }^{2}$ This question was asked of only persons reporting active-duty military service in the past, but not now; that is, civilian veterans.
${ }^{3}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This includes current military personnel and all civilians with no military service.

Table D.26. Census Question P18A—Does This Person Have a Physical, Mental, or Other Health Condition That Has Lasted for 6 or More Months and Which Limits the Kind or Amount of Work This Person Can Do at A Job?-Unedited: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported | 1 | 2 |
| Total | 29,647 | 7,056 | 22,591 | 2,619 | 19,972 |
| Not reported ${ }^{2}$ | 12,902 | 5,889 | 7,013 | 1,326 | 5,687 |
| Reported | 16,745 | 1,167 | 15,578 | 1,293 | 14,285 |
| Item responses: |  |  |  |  |  |
| 1. Yes | 1,733 | 126 | 1,607 | 884 | 723 |
| 2. No. | 15,012 | 1,041 | 13,971 | 409 | 13,562 |

${ }^{1}$ Not reported includes individual item nonresponse. This question was asked of only persons 15 years or older
${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This question was asked of only persons between 15 and 65 years of age.

Table D.27. Census Question P18B—Does This Person Have a Physical, Mental, or Other Health Condition That Has Lasted for 6 or More Months and Which Prevents This Person From Working at a Job?Unedited: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported | 1 | 2 |
| Total | 29,647 | 7,757 | 21,890 | 1,943 | 19,947 |
| Not reported ${ }^{2}$ | 27,941 | 7,599 | 20,342 | 1,328 | 19,014 |
| Reported ${ }^{3}$. | 1,706 | 158 | 1,548 | 615 | 933 |
| Item responses: |  |  |  |  |  |
| 1. Yes . | 931 | 86 | 845 | 550 | 295 |
| 2. No. | 775 | 72 | 703 | 65 | 638 |

[^40]Table D.28. Census Question P19A-Because of a Health Condition That Has Lasted for 6 or More Months, Does This Person Have Any Difficulty Going Outside the Home Alone, for Example, to Shop or Visit a Doctor's Office?-Unedited: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported | 1 | 2 |
| Total | 29,647 | 7,336 | 22,311 | 943 | 21,368 |
| Not reported ${ }^{2}$ | 9,639 | 5,745 | 3,894 | 203 | 3,691 |
| Reported... | 20,008 | 1,591 | 18,417 | 740 | 17,677 |
| Item responses: |  |  |  |  |  |
| 1. Yes | 812 | 70 | 742 | 406 | 336 |
| 2. No. | 19,196 | 1,521 | 17,675 | 334 | 17,341 |

${ }^{1}$ Not reported includes individual item nonresponse. This question was asked of only persons 15 years or older
${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This question was asked of only persons 15 years or older.

Table D.29. Census Question P19B-Because of a Health Condition That Has Lasted for 6 or More Months, Does This Person Have Any Difficulty Taking Care of His or Her Own Personal Needs, Such as Bathing, Dressing, or Getting Around Inside the Home?-Unedited: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported | 1 | 2 |
| Total | 29,647 | 7,504 | 22,143 | 992 | 21,151 |
| Not reported ${ }^{2}$ | 9,837 | 5,825 | 4,012 | 234 | 3,778 |
| Reported | 19,810 | 1,679 | 18,131 | 758 | 17,373 |
| Item responses: |  |  |  |  |  |
| 1. Yes | 413 | 37 | 376 | 161 | 215 |
| 2. No. | 19,397 | 1,642 | 17,755 | 597 | 17,158 |

${ }^{1}$ Not reported includes individual item nonresponse. This question was asked of only persons 15 years or older.
${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This question was asked of only persons 15 years or older.

Table D.30. Census Question P30—Was This Person. . .?—Unedited: 1990 Census (Uses Reinterview Recode)

| Reinterview classification | Census classification |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Total | 29,647 | 12,954 | 16,693 | 11,339 | 996 | 1,099 | 778 | 641 | 1,207 | 454 | 179 |
| Not reported ${ }^{2}$. | 16,384 | 11,497 | 4,887 | 3,405 | 258 | 292 | 197 | 188 | 328 | 107 | 112 |
| Reported. . . | 13,263 | 1,457 | 11,806 | 7,934 | 738 | 807 | 581 | 453 | 879 | 347 | 67 |
| Item responses |  |  |  |  |  |  |  |  |  |  |  |
| 1. Employee of a PRIVATE FOR PROFIT company or of an individual, for wages, salary or commissions | 8,806 | 978 | 7,828 | 7,280 | 170 | 60 | 41 | 28 | 142 | 88 | 19 |
| 2. Employee of a PRIVATE NOT-FOR-PROFIT, tax exempt, or charitable organization | 763 | 60 | 703 | 176 | 464 | 28 | 15 | 5 | 10 | 3 | 2 |
| 3. Local GOVERNMENT employee. | 968 | 112 | 856 | 84 | 54 | 617 | 83 | 8 | 6 | 2 | 2 |
| 4. State GOVERNMENT employee . | 668 | 63 | 605 | 45 | 34 | 82 | 429 | 12 | 2 | 0 | 1 |
| 5. Federal GOVERNMENT employee. | 498 | 37 | 461 | 32 | 5 | 14 | 7 | 398 | 4 | 1 | 0 |
| 6. SELF-EMPLOYED in own NOT INCORPORATED business, professional practice, or farm | 1,118 | 157 | 961 | 196 | 10 | 5 | 4 | 2 | 659 | 61 | 24 |
| 7. SELF-EMPLOYED in own INCORPORATED business, professional practice, or farm. . . . . | 375 | 32 | 343 | 102 | 1 | 1 | 2 | 0 | 42 | 190 | 5 |
| 8. Working WITHOUT PAY in family business or farm | 67 | 18 | 49 | 19 | 0 | 0 | 0 | 0 | 14 | 2 | 14 |

${ }^{1}$ Not reported includes individual item nonresponse. This question was asked of only persons 15 years or older who reported working in 1985 or later.
${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This question was asked of only persons 15 years or older who reported working since January 1 , 1989 or later.

Table D.31. Census Question P31A—Last Year (1989), Did This Person Work, Even for a Few Days, at a Paid Job or in a Business or Farm?-Unedited: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported | 1 | 2 |
| Total | 29,647 | 11,634 | 18,013 | 13,507 | 4,506 |
| Not reported ${ }^{2}$ | 9,723 | 6,773 | 2,950 | 2,142 | 808 |
| Reported | 19,924 | 4,861 | 15,063 | 11,365 | 3,698 |
| Item responses: |  |  |  |  |  |
| 1. Yes | 12,530 | 1,233 | 11,297 | 10,041 | 1,256 |
| 2. No. | 7,394 | 3,628 | 3,766 | 1,324 | 2,442 |

[^41]Table D.32. Census Question P31B—How Many Weeks Did This Person Work in 1989?—Edited: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not report$\mathrm{ed}^{1}$ | Reported | 1 | 2 | 3 | 4 | 5 | 6 |
| Total | 27,983 | 12,526 | 15,457 | 9,821 | 702 | 1,255 | 1,153 | 1,329 | 1,197 |
| Not reported ${ }^{2}$. | 15,709 | 11,589 | 4,120 | 2,164 | 193 | 345 | 357 | 514 | 547 |
| Reported | 12,274 | 937 | 11,337 | 7,657 | 509 | 910 | 796 | 815 | 650 |
| Item responses: |  |  |  |  |  |  |  |  |  |
| 1. 50-52 weeks | 8,660 | 311 | 8,349 | 6,977 | 377 | 433 | 251 | 192 | 119 |
| 2. 48-49 weeks | 283 | 13 | 270 | 156 | 40 | 41 | 16 | 9 | 8 |
| 3. 40-47 weeks | 722 | 39 | 683 | 202 | 44 | 257 | 109 | 52 | 19 |
| 4. 27-39 weeks | 731 | 55 | 676 | 121 | 20 | 112 | 270 | 124 | 29 |
| 5. 14-26 weeks | 827 | 106 | 721 | 123 | 16 | 45 | 101 | 316 | 120 |
| 6. 1-13 weeks . | 1,051 | 413 | 638 | 78 | 12 | 22 | 49 | 122 | 355 |

${ }^{1}$ Not reported includes individual item nonresponse. This question was asked of only persons 15 years or older who reported working in 1985 or later.
${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This question was asked of only persons 15 years or older who reported working in 1989.

Table D.33. Census Question P31C-During the Weeks WORKED in 1989, How Many Hours Did This Person Usually Work Each Week?-Edited: 1990 Census (Collapsed to 2 Categories)

| Reinterview classification | Census classification |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported | 1 | 2 |
| Total. | 27,983 | 12,526 | 15,457 | 12,141 | 3,316 |
| Not reported ${ }^{2}$ | 15,667 | 11,564 | 4,103 | 3,056 | 1,047 |
| Reported | 12,316 | 962 | 11,354 | 9,085 | 2,269 |
| Item responses: |  |  |  |  |  |
| 1. 35 hours or more | 9,427 | 378 | 9,049 | 8,455 | 594 |
| 2. 1-34 hours | 2,889 | 584 | 2,305 | 630 | 1,675 |

${ }^{1}$ Not reported includes individual item nonresponse. This question was asked of only persons 15 years or older who reported working in 1985 or later.
${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This question was asked of only persons 15 years or older who reported working in 1989.

Table D.34. Census Question P31C-During the Weeks WORKED in 1989, How Many Hours Did This Person Usually Work Each Week?-Edited: 1990 Census (Collapsed to 3 Categories)

| Reinterview classification | Census classification |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported | 1 | 2 | 3 |
| Total | 27,983 | 12,526 | 15,457 | 12,141 | 2,634 | 682 |
| Not reported ${ }^{2}$ | 15,667 | 11,564 | 4,103 | 3,056 | 800 | 247 |
| Reported. | 12,316 | 962 | 11,354 | 9,085 | 1,834 | 435 |
| Item responses: |  |  |  |  |  |  |
| 1. 35 hours or more. | 9,427 | 378 | 9,049 | 8,455 | 500 | 94 |
| 2. 15-34 hours . | 2,167 | 291 | 1,876 | 496 | 1,208 | 172 |
| 3. 1-14 hours........ | 722 | 293 | 429 | 134 | 126 | 169 |

[^42]
# APPENDIX E. Additional Tables 

Table E.1. Questions Used to Determine Housing Subgroups

| Subgroups | Question (unedited census) |
| :--- | :--- |
| Black householder | Household relationship (P2), Race (P4) |
| Non-Black householder | Household relationship (P2), Spanish/ Hispanic origin (P7) |
| Spanish/ Hispanic householder | Household relationship (P2), Race (P4), and Spanish/ Hispanic <br> Non-Spanish/ Hispanic householder (P7) |
| Non-Black and Non-Spanish/ Hispanic householder |  |

Table E.2. Response Error Measures for Rent (Includes Additional Outside Payments)

| Census questions and categories | Sample size | Percent in class |  | Net difference rate |  | Index of inconsistency |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Census | CRS | Estimate | 90-percent confidence interval | Estimate | 90-percent confidence interval |
| H7A: What is the Monthly Rent?... | 2,449 | - | - | - | - | - | - |
| Less than \$80. |  | 3.8 | 3.4 | 0.3 | -0.1 to 0.8 | 28.3 | 22.3 to 35.9 |
| \$80 to \$99 | - | 1.9 | 1.4 | * 0.5 | 0.1 to 0.9 | 47.1 | 36.1 to 61.5 |
| \$100 to \$124. | - | 3.3 | 3.0 | 0.2 | -0.2 to 0.7 | 29.5 | 23.0 to 37.8 |
| \$125 to \$149. | - | 2.7 | 2.5 | 0.2 | -0.2 to 0.7 | 38.5 | 30.4 to 48.8 |
| \$150 to \$174. | - | 4.5 | 4.2 | 0.3 | -0.3 to 0.8 | 32.2 | 26.3 to 39.5 |
| \$175 to \$199. | - | 3.4 | 2.9 | 0.4 | 0.0 to 0.9 | 31.3 | 24.6 to 39.8 |
| \$200 to \$224. | - | 5.5 | 5.9 | -0.4 | -0.9 to 0.2 | 26.2 | 21.5 to 32.0 |
| \$225 to \$249. | - | 3.7 | 3.2 | 0.5 | 0.0 to 1.0 | 32.9 | 26.3 to 41.1 |
| \$250 to \$274. | - | 5.5 | 5.6 | -0.1 | -0.7 to 0.5 | 30.6 | 25.5 to 36.9 |
| \$275 to \$299. | - | 5.0 | 4.7 | 0.3 | -0.3 to 0.9 | 33.9 | 28.1 to 40.8 |
| \$300 to \$324. | - | 5.8 | 6.1 | -0.3 | -1.0 to 0.4 | 37.1 | 31.6 to 43.7 |
| \$325 to \$349. | - | 4.0 | 3.7 | 0.2 | -0.3 to 0.8 | 38.7 | 31.8 to 47.1 |
| \$350 to \$374. | - | 5.7 | 5.6 | 0.1 | -0.6 to 0.7 | 35.8 | 30.3 to 42.5 |
| \$375 to \$399. | - | 5.0 | 4.9 | 0.1 | -0.5 to 0.8 | 37.7 | 31.6 to 44.9 |
| \$400 to \$424. |  | 5.2 | 5.7 | -0.5 | -1.2 to 0.2 | 42.9 | 36.6 to 50.3 |
| \$425 to \$449. | - | 3.6 | 3.5 | 0.2 | -0.4 to 0.8 | 48.9 | 40.7 to 58.6 |
| \$450 to \$474. | - | 4.0 | 4.5 | -0.5 | -1.2 to 0.1 | 44.5 | 37.4 to 52.9 |
| \$475 to \$499. | - | 3.8 | 3.3 | 0.4 | -0.1 to 0.9 | 36.9 | 30.0 to 45.5 |
| \$500 to \$524. | - | 3.0 | 3.4 | -0.4 | -0.9 to 0.1 | 38.4 | 30.9 to 47.6 |
| \$525 to \$549. |  | 2.0 | 1.6 | 0.4 | -0.1 to 0.8 | 46.9 | 36.3 to 60.6 |
| \$550 to \$599. | - | 4.6 | 4.6 | 0.0 | -0.6 to 0.6 | 34.6 | 28.6 to 41.9 |
| \$600 to \$649. | - | 2.6 | 3.8 | *-1.1 | -1.7 to -0.6 | 39.7 | 32.1 to 49.1 |
| \$650 to \$699. | - | 2.9 | 2.8 | 0.0 | -0.5 to 0.5 | 39.2 | 31.3 to 49.2 |
| \$700 to \$749. | - | 2.3 | 2.5 | -0.2 | -0.6 to 0.2 | 33.6 | 25.8 to 43.7 |
| \$750 to \$999. | - | 4.5 | 4.9 | -0.4 | -0.8 to 0.1 | 18.8 | 14.5 to 24.3 |
| \$1,000 or more . | - | 1.8 | 2.1 | -0.3 | -0.5 to 0.0 | 14.0 | 8.9 to 21.9 |
| L-fold |  |  |  |  |  |  |  |
| Total units: | 2,449 | - | - | - | - | 35.0 | 33.4 to 36.7 |
| Black householder . | 366 | - | - | - | - | 46.5 | 42.4 to 51.4 |
| Non-black householder. | 2,023 | - | - | - | - | 32.8 | 31.1 to 34.6 |
| Spanish/ Hispanic householder | 232 | - | - | - | - | 42.0 | 37.1 to 48.2 |
| Non-Spanish/ Hispanic householder. . | 2,098 | - | - | - | - | 34.4 | 32.8 to 36.3 |
| Non-black and non-Spanish/ Hispanic householder. | 1,744 | - | - | -- | - | 32.1 | 30.2 to 34.0 |

* Indicates significance at the 10-percent level.

Table E.3. Census Question H7A—What Is the Monthly Rent?—Unedited: 1990 Census (Includes Additional Outside Payments)

| Reinterview classification | Census classification |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| Total | 12,872 | 8,944 | 3,928 | 173 | 63 | 118 | 99 | 166 | 130 | 222 | 159 | 220 | 201 | 236 |
| Not reported ${ }^{2}$. | 10,256 | 8,777 | 1,479 | 81 | 16 | 38 | 32 | 57 | 47 | 87 | 68 | 85 | 78 | 94 |
| Reported... | 2,616 | 167 | 2,449 | 92 | 47 | 80 | 67 | 109 | 83 | 135 | 91 | 135 | 123 | 142 |
| Item responses: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Less than \$80. | 96 | 12 | 84 | 64 | 7 | 3 | 0 | 1 | 1 | 3 | 1 | 2 | 0 | 1 |
| 2. $\$ 80$ to $\$ 99$. | 36 | 1 | 35 | 5 | 22 | 3 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 3. \$100 to \$124. | 84 | 10 | 74 | 2 | 8 | 55 | 2 | 2 | 0 | 2 | 2 | 1 | 0 | 0 |
| 4. \$125 to \$149. | 70 | 9 | 61 | 1 | 0 | 9 | 40 | 8 | 1 | 0 | 0 | 0 | 1 | 0 |
| 5. \$150 to \$174. | 112 | 10 | 102 | 0 | 0 | 3 | 11 | 73 | 6 | 2 | 0 | 1 | 1 | 1 |
| 6. \$175 to \$199. | 79 | 7 | 72 | 1 | 1 | , | 1 | 7 | 54 | 1 | 0 | 1 | 1 | 1 |
| 7. \$200 to \$224. | 157 | 13 | 144 | 3 | 3 | 1 | 2 | 5 | 11 | 105 | 4 | 5 | 1 | 3 |
| 8. \$225 to \$249. | 84 | 5 | 79 | 2 | 0 | 1 | 0 | 0 | 1 | 9 | 58 | 4 | 0 | 1 |
| 9. \$250 to \$274. | 145 | 7 | 138 | 4 | 2 | 1 | 2 | 3 | 1 | 4 | 13 | 97 | 5 | 0 |
| 10. \$275 to \$299 | 121 | 5 | 116 | 1 | 0 | 0 | 1 | 3 | 1 | 2 | 1 | 9 | 81 | 9 |
| 11. \$300 to \$324 | 164 | 14 | 150 | 1 | 0 | 0 | 2 | 2 | 2 | 1 | 3 | 7 | 19 | 95 |
| 12. \$325 to \$349 | 96 | 5 | 91 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 4 | 1 | 5 | 12 |
| 13. \$350 to \$374 | 146 | 8 | 138 | 1 | 0 | 0 | 0 | 3 | 2 | 1 | 0 | 2 | 1 | 9 |
| 14. \$375 to \$399 | 127 | 7 | 120 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 4 | 3 |
| 15. \$400 to \$424 | 148 | 9 | 139 | 1 | 2 | 1 | 0 | 0 | 0 | 1 | 2 | 1 | 1 | 3 |
| 16. \$425 to \$449 | 88 | 3 | 85 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 |
| 17. \$450 to \$474 | 116 | 5 | 111 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| 18. $\$ 475$ to \$499 | 86 | 4 | 82 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19. \$500 to \$524 | 89 | 6 | 83 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 20. \$525 to \$549 | 41 | 1 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21. \$550 to \$599 | 119 | 7 | 112 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| 22. \$600 to \$649 | 95 | 3 | 92 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 23. \$650 to \$699 | 72 | 3 | 69 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 24. $\$ 700$ to \$749 | 65 | 3 | 62 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| 25. \$750 to \$999 | 125 | 6 | 119 | 2 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| 26. \$1,000 or more | 55 | 4 | 51 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |

[^43]Table E.3. Census Question H7A-What Is the Monthly Rent?—Unedited: 1990 Census (Includes Additional Outside Payments)-Con.

| Reinterview classification | Census classification-Con. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| Total | 162 | 214 | 186 | 213 | 144 | 146 | 132 | 124 | 76 | 174 | 105 | 108 | 91 | 185 | 81 |
| Not reported ${ }^{2}$ | 65 | 74 | 63 | 86 | 55 | 48 | 40 | 51 | 27 | 62 | 41 | 38 | 34 | 75 | 37 |
| Reported.... | 97 | 140 | 123 | 127 | 89 | 98 | 92 | 73 | 49 | 112 | 64 | 70 | 57 | 110 | 44 |
| Item responses: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Less than $\$ 80$. | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2. \$80 to \$99. | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3. $\$ 100$ to \$124 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4. \$125 to \$149 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5. \$150 to \$174 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6. $\$ 175$ to \$199 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 7. \$200 to \$224 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8. \$225 to \$249 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9. $\$ 250$ to $\$ 274$ | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 10. \$275 to \$299 | 0 | 4 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11. \$300 to \$324 | 8 | 3 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 12. \$325 to \$349 | 59 | 3 | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13. \$350 to \$374 | 19 | 92 | 2 | 4 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14. \$375 to \$399 | 4 | 17 | 78 | 5 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 15. \$400 to \$424 | 2 | 8 | 26 | 79 | 5 | 5 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 16. \$425 to \$449 | 0 | 2 | 3 | 19 | 46 | 6 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17. \$450 to \$474 | 0 | 4 | 2 | 8 | 24 | 60 | 6 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 18. \$475 to \$499 | 0 | 2 | 0 | 3 | 6 | 9 | 56 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| 19. $\$ 500$ to \$524 | 0 | 0 | 3 | 1 | 1 | 7 | 13 | 49 | 3 | 4 | 1 | 0 | 0 | 0 | 0 |
| 20. \$525 to \$549 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 7 | 24 | 1 | 2 | 0 | 1 | 0 | 0 |
| 21. \$550 to \$599 | 0 | 0 | 1 | 1 | 1 | 2 | 2 | 5 | 13 | 75 | 4 | 2 | 2 | 2 | 0 |
| 22. $\$ 600$ to \$649 | 0 | 1 | 0 | 1 | 1 | 0 | 3 | 3 | 3 | 18 | 48 | 9 | 1 | 1 | 1 |
| 23. $\$ 650$ to \$699 | 1 | 0 | 1 | 2 | 0 | 0 | 1 | 0 | 3 | 4 | 6 | 43 | 4 | 1 | 0 |
| 24. \$700 to \$749 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 9 | 40 | 4 | 1 |
| 25. $\$ 750$ to \$999 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 0 | 6 | 9 | 94 | 1 |
| 26. \$1,000 or more | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 6 | 41 |

${ }^{1}$ Not reported includes individual item nonresponse. This question was asked of only renters.
${ }^{2}$ Not reported includes individual item nonresponse, household refusals, movers, vacants, and other noninterviews (that is, households with language barriers, all household members ill, hospitalized, or temporarily absent during the entire survey period, and so forth). This question was asked of only renters.

Table E.4. Indexes of Inconsistency and Net Difference Rates for Year Built: Owner Occupied Units

| Year built | Percent in class |  | Net difference rate |  | Index of inconsistency |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Census ${ }^{1}$ | CRS | Estimate | 90-percent confidence interval | Estimate | 90-percent confidence interval |
| 1989 or 1990 | 1.1 | 1.6 | *-0.4 | -0.7 to -0.2 | 48.7 | 41.0 to 58.0 |
| 1985 to 1988 | 8.1 | 8.5 | *-0.4 | -0.8 to -0.1 | 22.3 | 20.0 to 24.8 |
| 1980 to 1984 | 8.2 | 8.3 | 0.0 | -0.5 to 0.4 | 32.6 | 29.8 to 35.6 |
| 1970 to 1979 | 22.7 | 22.8 | -0.1 | -0.6 to 0.5 | 23.7 | 22.1 to 25.3 |
| 1960 to 1969 | 16.0 | 15.9 | 0.0 | -0.5 to 0.6 | 32.8 | 30.7 to 35.1 |
| 1950 to 1959 | 16.0 | 15.0 | * 1.0 | 0.4 to 1.6 | 34.2 | 32.0 to 36.5 |
| 1940 to 1949 | 8.8 | 8.0 | * 0.8 | 0.3 to 1.3 | 47.7 | 44.3 to 51.3 |
| 1939 or earlier | 19.0 | 19.9 | *-0.9 | -1.4 to -0.4 | 24.1 | 24.4 to 25.9 |
| L-fold index. . |  |  |  |  | 30.1 | 29.1 to 31.2 |

* Indicates significance at the 10-percent level. ${ }^{1}$ Final edited/ allocated census values.

Table E.5. Indexes of Inconsistency and Net Difference Rates for Year Built: Renter Occupied Units

| Year built | Percent in class |  | Net difference rate |  | Index of inconsistency |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Census ${ }^{1}$ | CRS | Estimate | 90-percent confidence interval | Estimate | 90-percent confidence interval |
| 1989 or 1990. | 1.1 | 1.4 | -0.4 | -0.8 to 0.1 | 62.3 | 46.6 to 83.2 |
| 1985 to 1988. | 8.7 | 7.8 | 1.0 | 0.0 to 1.9 | 42.8 | 37.2 to 49.3 |
| 1980 to 1984 . | 10.5 | 9.2 | * 1.3 | 0.2 to 2.5 | 57.0 | 51.3 to 63.5 |
| 1970 to 1979 . | 21.9 | 22.6 | -0.7 | -2.3 to 0.9 | 57.1 | 53.1 to 61.4 |
| 1960 to 1969 . | 15.8 | 15.2 | 0.6 | -0.9 to 2.1 | 67.1 | 62.1 to 72.6 |
| 1950 to 1959 . | 12.7 | 12.0 | 0.7 | -0.7 to 2.1 | 70.2 | 64.5 to 76.5 |
| 1940 to 1949 . | 9.2 | 9.1 | 0.1 | -1.1 to 1.3 | 69.1 | 62.6 to 76.4 |
| 1939 or earlier | 20.2 | 22.8 | *-2.6 | -4.0 to -1.2 | 44.0 | 40.4 to 48.0 |
| L-fold index. |  |  |  |  | 57.7 | 55.6 to 59.9 |

* Indicates significance at the 10-percent level. ${ }^{1}$ Final edited/ allocated census values.

Table E.6. $\begin{gathered}\text { Questions Used to Determine Population } \\ \text { Subgroups }\end{gathered}$ Subgroups

| Subgroups | Question (unedited census) |
| :--- | :--- |
| Male |  |
| Female | Sex (P3) |
| White |  |
| Black | Race (P4) |
| Other |  |
| Native born | Citizenship (P9) |
| Foreign born |  |
| Hispanic | Spanish/ Hispanic origin (P7) |

Table E.7. Response Errors for Census Question P31A (With Reinterview Recodes)

| Census questions and categories | Sample size | Percent in class |  | Net difference rate |  | Index of inconsistency |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Census | CRS | Estimate | 90-percent confidence interval | Estimate | 90-percent confidence interval |
| P31A: Last Year (1989), Did This Person Work, Even for a Few Days, at a Paid Job or in a Business or a Farm? $\qquad$ | 14,921 |  |  |  |  |  |  |
| Yes | - | 75.4 | 77.9 | *-2.5 | -3.1 to-2.0 | 44.6 | 43.2 to 46.0 |
|  | - | 24.6 | 22.1 | * 2.5 | 2.0 to 3.1 | 44.6 | 43.2 to 46.0 |
| L-fold: |  |  |  |  |  |  |  |
| Total persons | 14,921 | 75.4 | 77.9 | *-2.5 | -3.1 to -2.0 | 44.6 | 43.2 to 46.0 |
| Male ${ }^{1}$. | 7,529 | 79.1 | 82.0 | *-2.8 | -3.6 to -2.1 | 49.5 | 47.4 to 51.8 |
| Female ${ }^{1}$ | 7,326 | 71.6 | 73.8 | *-2.1 | -2.9 to -1.4 | 41.3 | 39.5 to 43.1 |
| White ${ }^{1}$ | 12,943 | 75.8 | 78.4 | *-2.6 | -3.1 to -2.0 | 42.8 | 41.4 to 44.3 |
| Black ${ }^{1}$ | 1,139 | 70.3 | 73.0 | *-2.6 | -4.9 to -0.4 | 50.9 | 46.4 to 56.1 |
| Other ${ }^{1}$ | 641 | 76.9 | 78.3 | -1.4 | -4.4 to 1.6 | 62.4 | 55.3 to 70.7 |

* Indicates significance at the 10-percent level. - Not applicable. ... Not sufficient data to compute reliable response error measures.
${ }^{1}$ Results for the category "Yes."

Table E.8. Census Question P31A—Last Year (1989), Did This Person Work, Even for a Few Days, at a Paid Job or in a Business or Farm?-Unedited: 1990 Census (With Reinterview Recodes)

| Reinterview classification | Census classification |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not reported ${ }^{1}$ | Reported | 1 | 2 |
| Total | 29,647 | 11,634 | 18,013 | 13,507 | 4,506 |
| Not reported ${ }^{2}$. | 9,941 | 6,849 | 3,092 | 2,257 | 835 |
| Reported. | 19,706 | 4,785 | 14,921 | 11,250 | 3,671 |
| Item responses: |  |  |  |  |  |
| Yes | 12,998 | 1,372 | 11,626 | 10,247 | 1,379 |
| No | 6,708 | 3,413 | 3,295 | 1,003 | 2,292 |

${ }^{1}$ Not reported includes individual item nonresponse. This question was asked of only persons 15 years or older
${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This question was asked of only persons 15 years or older.

Table E.9. Response Errors for Census Question P17A (Edited Census Data)

| Census questions and categories | Sample size | Percent in class |  | Net difference rate |  | Index of inconsistency |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Census | CRS | Estimate | 90-percent confidence interval | Estimate | 90-percent confidence interval |
| P17A: Has This Person Ever Been on Active-Duty Military Service? | 18,253 | - | - | - | - | - |  |
| Yes, now on active duty | - | 0.5 | 0.4 | 0.1 | 0.0 to 0.1 | 28.5 | 22.4 to 36.3 |
| Yes, on active duty in past, but not now | - | 15.6 | 15.5 | 0.0 | -0.1 to 0.2 | 8.4 | 7.7 to 9.1 |
| Yes, service in Reserves or National Guard only | - | 1.8 | 1.9 | -0.1 | -0.2 to 0.0 | 30.0 | 26.7 to 33.7 |
| No |  | 82.1 | 82.1 | 0.0 | -0.2 to 0.1 | 5.8 | 5.3 to 6.4 |
| L-fold: |  |  |  |  |  |  |  |
| Total persons | 18,253 | - | - | - | - | 8.8 | 8.1 to 9.4 |
| Male | 8,508 | - | - | - | - | 9.7 | 8.9 to 10.5 |
| Female | 9,745 | - | - | - | - | 32.6 | 26.8 to 39.6 |
| White. | 15,799 | - | - | - | - | 7.9 | 7.3 to 8.6 |
| Black. | 1,577 | - | - | - | - | 18.5 | 15.1 to 22.8 |
| Other. | 877 | - | - | - | - | 16.3 | 11.4 to 23.4 |

Table E.10. Census Question P17A-Has This Person Ever Been on Active-Duty Military Service in the Armed Forces of the United States or Ever Been in the United States Military Reserves or the National Guard?-Edited: 1990 Census

| Reinterview classification | Census classification |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Not report$\mathrm{ed}^{1}$ | Reported | 1 | 2 | 3 | 4 |
| Total | 27,983 | 5,965 | 22,018 | 116 | 3,381 | 387 | 18,134 |
| Not reported ${ }^{2}$ | 9,112 | 5,347 | 3,765 | 27 | 537 | 55 | 3,146 |
| Reported.... | 18,871 | 618 | 18,253 | 89 | 2,844 | 332 | 14,988 |
| Item responses: |  |  |  |  |  |  |  |
| Yes, now on active duty | 74 | 1 | 73 | 58 | 12 | 3 | 0 |
| Yes, on active duty in past, but not now.... | 2,842 | 7 | 2,835 | 23 | 2,638 | 68 | 106 |
| Yes, service in reserves or national guard only | 354 | 3 | 351 | 2 | 61 | 241 | 47 |
| No . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . | 15,601 | 607 | 14,994 | 6 | 133 | 20 | 14,835 |

${ }^{1}$ Not reported includes individual item nonresponse. This question was asked of only persons 15 years or older
${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This question was asked of only persons 15 years or older.

## Bibliography

[1] Biemer, Paul P., "Evaluating Censuses of Population and Housing," Chapter 3 and Appendix, U.S. Department of Commerce, Bureau of the Census, Statistical Training Document, ISP-TR-5, September 1985.
[2] Biemer, Paul P. and Forsman, G., "On the Quality of Reinterview Data With Application to the Current Population Survey," Journal of the American Statistical Association, Vol 87, No. 420, December 1992.
[3] Thomas, Kathryn F. and Dingbaum, Tamara L., "Data Quality in the 1990 Census-The Content Reinterview Survey," For presentation at the 1993 meetings of the American Statistical Association, San Francisco, CA, August 8-12.
[4] Thomas, Kathryn F. and Dingbaum, Tamara L., "How Good Are These Data Anyway?-The Content Reinterview for the 1990 Census," For presentation at the 1992 meetings of the American Statistical Association, Boston, MA, August 9-13.
[5] U.S. Bureau of the Census, "The Content Development Process for the 1990 Census of Population and Housing," U.S. Government Printing Office, Washington, DC, 1987.
[6] U.S. Bureau of the Census, "1980 Census of Population and Housing, Content Reinterview Study: Accuracy of Data for Selected Population and Housing Characteristics as Measured by Reinterview," HPC 80-E2, U.S. Government Printing Office, Washington, DC, September 1986.
[7] U.S. Bureau of the Census, "Evaluation and Research Program, U.S. Census of Population and Housing, 1970: Accuracy of Data for Selected Population Characteristics as Measured by Reinterviews," PHC(E)-9, U.S. Government Printing Office, Washington, DC, 1974.
[8] U.S. Bureau of the Census, "Evaluation and Research Program, U.S. Census of Population and Housing, 1970: Accuracy of Data for Selected Housing Characteristics as Measured by Reinterviews," PHC(E)-10, U.S. Government Printing Office, Washington, DC, 1975.
[9] U.S. Bureau of the Census, "Evaluation and Research Program, U.S. Censuses of Population and Housing, 1960: Accuracy of Data on Housing Characteristics as Measured By Reinterviews," Series ER 60, No. 3, U.S. Government Printing Office, Washington, DC, 1964.
[10] U.S. Bureau of the Census, "Evaluation and Research Program, U.S. Censuses of Population and Housing, 1960: Accuracy of Data on Population Characteristics as Measured By Reinterviews," Series ER 60, No. 4, U.S. Government Printing Office, Washington, DC, 1964.

The following are a series of reports documenting the content development of the 1990 Census of Population and Housing. They are an invaluable source of information for detailed steps leading to the determination of the questions pertaining to a specific topic. The history of the item and changes from the 1980 census are discussed in each report. These reports are referred to for background information for many of the topics in this report.
[11] U.S. Bureau of the Census, "1990 Census of Population and Housing, Content Determination Reports: Labor Force," 1990 CDR-1, U.S. Government Printing Office, Washington, DC, September 1989.
[12] U.S. Bureau of the Census, "1990 Census of Population and Housing, Content Determination Reports: Veterans," 1990 CDR-2, U.S. Government Printing Office, Washington, DC, September 1989.
[13] U.S. Bureau of the Census, "1990 Census of Population and Housing, Content Determination Reports: Industry, Occupation, and Class of Worker," 1990 CDR-3, U.S. Government Printing Office, Washington, DC, September 1989.
[14] U.S. Bureau of the Census, " 1990 Census of Population and Housing, Content Determination Reports: General Demographic Data," 1990 CDR-5, U.S. Government Printing Office, Washington, DC, March 1990.
[15] U.S. Bureau of the Census, "1990 Census of Population and Housing, Content Determination Reports: Race and Ethnic Origin," 1990 CDR-6, U.S. Government Printing Office, Washington, DC, February 1991.
[16] U.S. Bureau of the Census, "1990 Census of Population and Housing, Content Determination Reports: Birthplace, Citizenship, Year of Entry, and Language," 1990 CDR-7, U.S. Government Printing Office, Washington, DC, October 1990.
[17] U.S. Bureau of the Census, "1990 Census of Population and Housing, Content Determination Reports: Education," 1990 CDR-8, U.S. Government Printing Office, Washington, DC, November 1989.
[18] U.S. Bureau of the Census, "1990 Census of Population and Housing, Content Determination Reports: Disability," 1990 CDR-10, U.S. Government Printing Office, Washington, DC, January 1990.
[19] U.S. Bureau of the Census, "1990 Census of Population and Housing, Content Determination Reports: Housing Occupancy and Structural Characteristics," 1990 CDR-11, U.S. Government Printing Office, Washington, DC, April 1990.
[20] U.S. Bureau of the Census, "1990 Census of Population and Housing, Content Determination Reports: Housing Plumbing, Equipment, and Fuels," 1990 CDR-12, U.S. Government Printing Office, Washington, DC, January 1989.
[21] U.S. Bureau of the Census, "1990 Census of Population and Housing, Content Determination Reports: Housing Financial Characteristics," 1990 CDR-13, U.S. Government Printing Office, Washington, DC, May 1990.
[22] McNeil, Jack, "Census Bureau Data on Persons With Disabilities: New Results and Old Questions About Validity and Reliability," For presentation at the 1993 annual meeting of the Society for Disability Studies, Seattle, WA, June 17-19.

## NOTE TO THE READER

This Census of Population and Housing Evaluation and Research Report is designed to inform the public about the decennial census evaluation program and results for its major content evaluation. If you would like additional information on anything presented in this publication, please write to:

Mr. John H. Thompson<br>Chief, Decennial Statistical Studies Division<br>Bureau of the Census<br>Washington, DC 20233

Your questions are welcome and any requested information will be provided.


[^0]:    * Indicates significance at the 10 percent level.

[^1]:    Hispanic origin
    School enrollment
    Year of entry
    Employment-industry

[^2]:    ${ }^{1}$ Numbers in brackets [ ] refer to entries in the bibliography section.

[^3]:    - Not applicable.
    ${ }^{1}$ Shown for 10 categories in 1990 and 6 categories in 1980.

[^4]:    ${ }^{3}$ [12]

[^5]:    ${ }^{4}$ [15]
    ${ }^{5}$ [15]

[^6]:    * Indicates significance at the 10 -percent level.

[^7]:    ${ }^{1}$ CRS could have up to three responses.
    ${ }^{2}$ Single response matches.
    ${ }^{3}$ Single CRS response matches one of two census responses.
    ${ }^{4}$ Single census response matches one of CRS multiple responses.
    ${ }^{5}$ One of census responses matches one of CRS responses.
    ${ }^{6}$ Both of the census responses match to two of the CRS responses.
    ${ }^{7}$ At least one census response matches one CRS response.

[^8]:    * Indicates significance at the 10 -percent level.

[^9]:    ${ }^{1}$ In the CRS, persons responding "No" to 33a were not asked 33b. No skip pattern was included in the census question.

[^10]:    * Indicates significance at the 10-percent level. - Not applicable. ... Not sufficient data to compute reliable response error measures.
    ${ }^{1}$ Results for the category "Yes."

[^11]:    * Indicates significance at the 10-percent level. - Not applicable. ... Not sufficient data to compute response error measures.

[^12]:    * Indicates significance at the 10-percent level. - Not applicable. ... Not sufficient data to compute response error measures.

[^13]:    * Indicates significance at the 10-percent level.
    - Not applicable.
    . Not sufficient data to compute response error measures.

[^14]:    * Indicates significance at the 10 -percent level. - Not applicable. ... Not sufficient data to compute response error measures.

[^15]:    * Indicates significance at the 10-percent level. - Not applicable. ... Not sufficient data to compute response error measures.

[^16]:    * Indicates significance at the 10-percent level. - Not applicable. ... Not sufficient data to compute response error measures.
    ${ }^{1}$ Demographic subgroups are not reported since the majority of persons reporting are White males.

[^17]:    * Indicates significance at the 10-percent level. - Not applicable. ... Not sufficient data to compute response error measures.
    ${ }^{1}$ Demographic subgroups are not reported since the majority of persons reporting are White males.

[^18]:    * Indicates significance at the 10-percent level. - Not applicable. ... Not sufficient data to compute response error measures.

[^19]:    ${ }^{1} n$ '..is the total number of sample cases. In the actual data tables, row 1 and column 1 contain the appropriate marginal totals.
    ${ }^{2}$ In the actual data tables, row 2 and column 2 contain the numbers of cases for which there was no report for that item in either the census or reinterview.
    ${ }^{3}$ n..is the total number of sample cases for which there was a report in both the census and reinterview; that is, the total sample cases minus the "not reported" cases.

[^20]:    ${ }^{1}$ Not reported includes individual item nonresponse. This question was asked of only single units.
    ${ }^{2}$ Not reported includes individual item nonresponse, household refusals, movers, vacants, and other noninterviews (that is, households with language barriers, all household members ill, hospitalized, or temporarily absent during the entire survey period, and so forth). This question was asked of only single units.

[^21]:    ${ }^{1}$ Not reported includes individual item nonresponse.
    ${ }^{2}$ Not reported includes individual item nonresponse, household refusals, movers, vacants, and other noninterviews (that is, households with language barriers, all household members ill, hospitalized, or temporarily absent during the entire survey period, and so forth).

[^22]:    ${ }^{1}$ Not reported includes individual item nonresponse.
    ${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth).

[^23]:    ${ }_{2}^{1}$ Not reported includes individual item nonresponse. This question was asked of only those persons born outside the U.S.
    ${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This question was asked of only those persons born outside the U.S.

[^24]:    ${ }^{1}$ Not reported includes individual item nonresponse.
    ${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth).

[^25]:    ${ }^{1}$ Not reported includes individual item nonresponse. This questions was asked of only persons 15 years or older who reported working in 1985 or later.
    ${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This question was asked of only persons 15 years or older who reported working since January 1,1989 or later.

[^26]:    Not reported includes individual item nonresponse.
    ${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth).

[^27]:    ${ }_{2}^{1}$ Edited census data; not reported responses were allocated.
    ${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill,

[^28]:    ${ }_{2}^{1}$ Not reported includes individual item nonresponse.
    ${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth).

[^29]:    ${ }^{1}$ Not reported includes individual item nonresponse. If a respondent gave more than one ancestry, they were also included in the not reported category.
    ${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and the noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). If a respondent gave more than one ancestry, they were also included in the not reported category.
    ${ }^{3}$ Reported includes a single response for both census and reinterview.

[^30]:    ${ }^{1}$ Not reported includes individual item nonresponse. If a respondent gave more than one ancestry, they were also included in the not reported category.
    ${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and the noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). If a respondent gave more than one ancestry, they were also included in the not reported category.
    ${ }^{3}$ Reported includes a single response for both census and reinterview.

[^31]:    ${ }^{1}$ Not reported includes individual item nonresponse. This item is not allocated, however, it is edited. Not reported responses were put into the "unclassified" category.
    ${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth).

[^32]:    ${ }^{1}$ Not reported includes individual item nonresponse. This item is not allocated, however, it is edited. Not reported responses were put into the "unclassified" category.
    ${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth).

[^33]:    ${ }^{1}$ Not reported includes individual item nonresponse. This item is not allocated, however, it is edited. Not reported responses were put into the "other" category.
    ${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth).

[^34]:    ${ }^{1}$ Not reported includes individual item nonresponse. This question was asked of only persons who speak a language other than English at home.

[^35]:    ${ }^{1}$ Not reported includes individual item nonresponse. This was asked of only respondents who said they spoke a language other than English at home.
    ${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This was asked of only respondents who said they spoke a language other than English at home.

[^36]:    ${ }^{1}$ Not reported includes individual item nonresponse. This question was asked of only persons 15 years or older.
    ${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill,

[^37]:    ${ }^{1}$ Not reported includes individual item nonresponse. This includes current military personnel and all civilians with no military service.
    ${ }^{2}$ This question was asked of only persons reporting active-duty military service in the past, but not now; that is, civilian veterans.
    ${ }^{3}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This includes current military personnel and all civilians with no military service.

[^38]:    Not reported includes individual item nonresponse. This includes current military personnel and all civilians with no military service.
    ${ }^{2}$ This question was asked of only persons reporting active-duty military service in the past, but not now; that is, civilian veterans.
    ${ }^{3}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This includes current military personnel and all civilians with no military service.

[^39]:    ${ }^{1}$ Not reported includes individual item nonresponse. This includes current military personnel and all civilians with no military service.
    ${ }^{2}$ This question was asked of only persons reporting active-duty military service in the past, but not now; that is, civilian veterans.
    ${ }^{3}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This includes current military personnel and all civilians with no military service.

[^40]:    ${ }^{1}$ Not reported includes individual item nonresponse. This question was asked of only persons 15 years or older
    ${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This question was asked of only persons between 15 and 65 years of age.
    ${ }^{3}$ Includes only persons who reported 'Yes" to CRS question 33a.

[^41]:    ${ }_{2}^{1}$ Not reported includes individual item nonresponse. This question was asked of only persons 15 years or older
    ${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This question was asked of only persons 15 years or older.

[^42]:    ${ }_{2}^{1}$ Not reported includes individual item nonresponse. This question was asked of only persons 15 years or older who reported working in 1985 or later.
    ${ }^{2}$ Not reported includes individual item nonresponse, person refusals, movers, and other noninterviews (that is, persons with language barriers, persons who were ill, hospitalized, or temporarily absent, deceased, and so forth). This question was asked of only persons 15 years or older who reported working in 1989.

[^43]:    ${ }^{1}$ Not reported includes individual item nonresponse. This question was asked of only renters.
    ${ }^{2}$ Not reported includes individual item nonresponse, household refusals, movers, vacants, and other noninterviews (that is, households with language barriers, all household members ill, hospitalized, or temporarily absent during the entire survey period, and so forth). This question was asked of only renters.

